v.18 no.1

THE HEALTH MAGAZINE

HYGEIA

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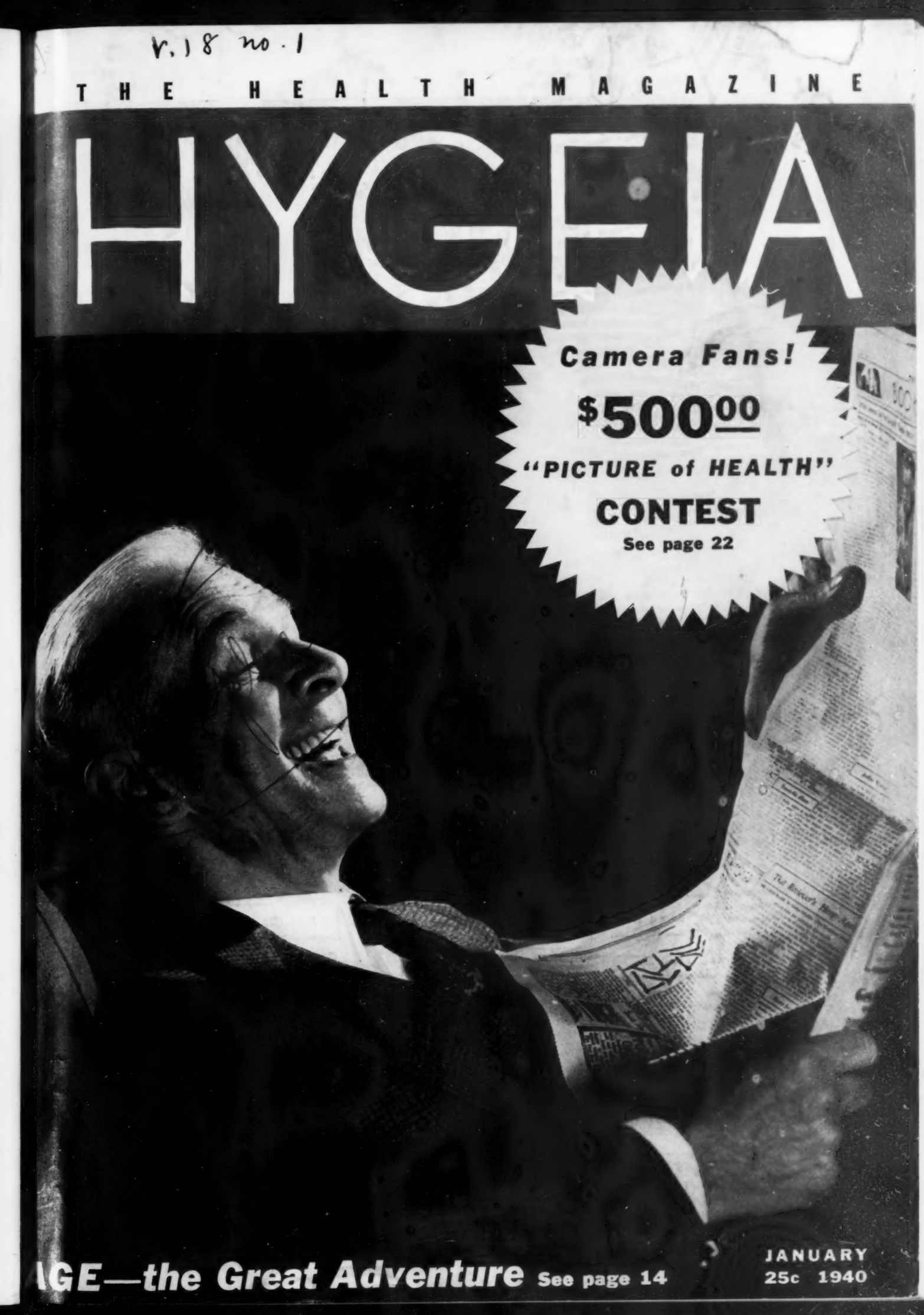
"PICTURE of HEALTH"

CONTEST

See page 22



GE—the Great Adventure See page 14

JANUARY
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● Babies are born with soft bones, remember that! And unless those little bones get enough Vitamin D, the sunshine vitamin, rickets result. That's why many doctors recommend sun baths every day all year 'round.

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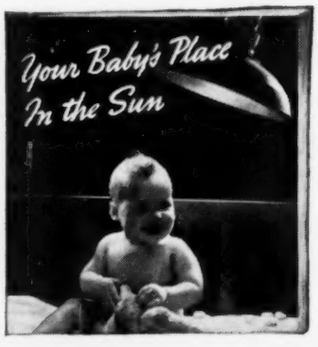

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EDITORIAL PREDICTIONS

The nine most deadly diseases—the nine ailments which account for 72 per cent of all deaths of human beings (nearly three out of every four persons)—are going to be dismantled and exposed in the next nine issue of HYGEIA! Appearing one each month, this series will be written by authorities in their respective fields. These fatal maladies are heart disease, influenza and pneumonia, cancer, inflammation of the kidneys, brain hemorrhage and paralysis, tuberculosis, congenital malformations and diseases of early infancy, automobile accidents and diabetes.

The disease which leads all others in fatality is heart disease—that Waterloo of so many successful American business and professional men. Therefore, in February Paul Dudley White, M.D., will open the series with, "Heart Disease: Captain of the Ranks of Death." Don't miss it!

"IF YOU KNEW some miraculous means by which you could greatly multiply the value of every dollar that you gave your doctor, wouldn't you consider it utter waste to neglect that means? That miracle is to train yourself to be a patient, to think seriously of your own role in the drama of your illness." In other words, are you an intelligent patient? You will be after you have read Dr. Philip Reichert's article "Patient Treat Doctor" next month.

If you should get the kind of an infection in your ear known as mastoiditis, what would you expect to happen? Probably you don't know. But if you were one who had read the article "Ear and Mastoid Infections" by Louis M. Pearlman, M.D., which will be an important feature of the February HYGEIA, you *would* know what to expect and—what is more important—how to prevent the worst! Not all mastoid infections require surgery, and none of them need result in loss of hearing—if you know what to do! Read this article to find out.

HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1939, by the American Medical Association. Edited by Morris Fishbein, M.D.

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HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 N. Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies, 25 cents. Volume 18, Number 1. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1.103 Act of October 3, 1917, authorized March 21, 1923. Printed in U. S. A.

Unsolicited manuscripts will be considered by the Editor but must be accompanied by a stamped self addressed envelop to insure return if rejected. Manuscripts should be typewritten, double-spaced, and the original, not the carbon copy submitted. All rights reserved.

He'll be walking soon

Remember, baby should not walk until his bones are strong enough. See that he gets the Vitamin D he needs to help build the sturdy bones that make for straight legs...a strong back. Since sunshine often can't provide your baby with enough of this precious vitamin, begin to give him Squibb's Cod Liver Oil now, and keep it up all winter.

to build good resistance:

Mothers give Squibb's Cod Liver Oil for Vitamin A...as well as D. Vitamin A promotes growth and aids in establishing resistance to infections in general...if baby's regular diet doesn't supply enough and his body reserves of this factor are exhausted.

well-shaped head

Your baby's head grows as much the *first* year as it does all the rest of his life. To help him build a well-shaped head...a fine, full chest...a strong back...straight legs...sound, even teeth...one special factor is important -Vitamin D. That's why so many mothers give Squibb's Cod Liver Oil.

Vitamins guarded! You get your money's worth!...When you insist on buying Squibb's Cod Liver Oil for your baby, you get full value of the Vitamins A and D that you are paying for. Squibb's Cod Liver Oil provides your baby with more than twice as many units of Vitamin A and three times as many units of Vitamin D as a cod liver oil which just complies with minimum requirements of the U. S. Pharmacopeia. You'll find it's an economy to buy Squibb's! Ask for it now—by name—at any drug store!... *The priceless ingredient of every product is the honor and integrity of its maker*

SQUIBB'S *Cod-Liver Oil*

Who's Who IN HYGEIA

V. EUGENE FRAZIER, M.D. is an Army Contract Flight Surgeon for the Reserve Airdrome at Kansas City, Kan., at present, so he writes of the work of a flight surgeon with authority. He received his training in this field at the School of Aviation Medicine in Randolph Field, Texas, the only such school in the world. He rides in airplanes whenever opportunity presents, at which times he acts almost like the proverbial back seat driver—watching all the instruments and worrying about the correctness of the navigation—but unlike the usual back seat "coach" he always keeps quiet.

"Age—The Great Adventure" on page 14 was written by the author of the following letter (Carl Bond):

"My first views of the world were in that section of it known as Westmoreland County, Pennsylvania, the scene of my birth being rural.

"My ambition was to become a newspaper man. I gained moderate proficiency in the art of newspaper reporting on the Pittsburgh *Chronicle-Telegraph,* after finishing at the Curry Institute there. My great aim, though, was to go to New York, work for the Associated Press and perhaps the New York *Herald.* Both of those goals were attained.

"From 1914 to 1920 I was War Editor of the New York *Evening Telegram,* and from 1920 to 1926 I served as News Editor of the New York *Journal of Commerce.* In 1926 I was appointed Financial Editor of the Philadelphia Morning *Public Ledger,* where I remained until the paper ceased publication in 1934.

"CARL BOND is a pen name. My designation in day-to-day life is Owen Conner."

L. W. BRYCE was born in the persimmon belt of Virginia on a frosty morning in 1898. After the war he went into medical technology, and thus far, he says he has cluttered up laboratories in Kentucky and West Virginia, but always in the small towns of the mountains. His most thrilling adventure occurred when he was chased down a Kentucky hillside by an irate prohibition agent, who was shooting at him at every third jump! It seemed that Mr. Bryce was merely helping a neighbor tend his still!

Friends of HARRIET A. HEYBURN complain that they have to keep an address book for her name alone. Although this is almost a fact, she says, it is somewhat misleading. When she was a few months old, her parents brought her and her older sister to Seattle from Juneau, Alaska, their birthplace. They moved on to Portland, Ore., where they lived for a short time. Thence they journeyed to Bend, traveling as far into central Oregon as the railroad went, and on inland by stage-coach on an all night trip. After her brother was born, they moved "up river" from town to live on a homestead.

More moves around that general vicinity occurred, while Miss Heyburn did private teaching, became a governess and completed training for teaching in public schools. At one time, she was hired to teach in a distant small town. After reaching the end of the bus line and subsequently hitching a ride in an old truck to take her across a mountain pass, she found it was a logging town. High wooden sidewalks, mud streets, drunken loggers—not to mention warrants for her paycheck—were the conditions that greeted her arrival. Later she completed normal training for teaching lip reading at the Seattle branch of the Muller-Walle school.

Descended from ancestors who settled in 1632 in Charlestown, Mass., RICHARD ADAMS LEARNED was educated in private schools and Rutgers University. Business took him to London, England, for a supposedly short stay. However, it was twenty years before he was able to come home. In London during the World War, he knows from personal experience how "annoying" air raids can be. Now he is executive secretary of the Society for Instruction in First Aid to the Injured, Inc., a society organized in 1882.

Misinformed

To the Editor:

Reading in your September issue of HYGEIA, my attention was called to an article written by Edna Lewis entitled "When Prevention Fails." In the course of the article instructions are given as to the proper way of administering artificial respiration; and being a student in physical and health education, I would like to have your medical advice relating to a point in Miss Lewis's advice. Quoting, "With arms extended, swing forward gradually, bringing *weight of body* to bear on patient." Other authorities, notably the American Red Cross, advocate considerably less pressure put on the body and maintain that whole weight of body should not be used, as it might prove injurious to the subject.

I would appreciate anything you can tell me to help straighten the point out.

BOB TARLTON

Austin, Tex.

>> *The source of the information for the legend to the pictures giving directions for applying the Schafer Prone Pressure Method were from the First Aid Text-Book of the American Red Cross, revised edition 1937.*

To quote from their directions, they say, "With arms held straight, swing forward slowly, so that the weight of your body is gradually brought to bear upon the patient."

▲

Hail Hygeia!

To the Editor:

Swinging into the swivel chair at the beginning of a day's work we contemplated the letters and periodicals arriving by morning post and instinctively reached for HYGEIA, glanced momentarily at the cover, perused its contents quickly, but with relish, and made a mental note to read it later. We reflected that this seems to be a habit about the 25th of each month.

Which is by way of saying we think credit should fall where credit is due. HYGEIA is not just an official organ issued monthly from the seat of American medicine for proper edification and guidance of a susceptible public; it is a down-

LETTERS FROM *Readers*

right interesting, illuminating and appealing publication.

The profession, we are inclined to think, overlooks the importance of this magazine as an educator and public relations counsel which every physician may employ in his office day in and day out on payment of a retainer of less than the cost of a cigaret. It is a publication that should be more widely used in the schools and homes where common sense and good judgment in health matters and problems of living may yield their greatest fruits.

There is probably no one subject in which Mr. and Mrs. Public and the growing Publics are more interested than their health—which, after all, is their greatest asset for both profit and enjoyment. Mute evidence of this is found in the vast sums spent annually on "patent medicine" and quackery.

HYGEIA is published for the laity, yet every practitioner of medicine may find much of worth and interest to his chosen field. As a source material for presenting medical talks to the public it is invaluable.

The improvement of HYGEIA, through better typography, profuse illustrations and well edited articles merits a bit of praise for its editors. You don't find such a lay publication in Germany, Russia, Italy or even England and France. This isn't a sales talk (primarily), but just something we have been wanting to get off the chest for some time because it gives you a good feeling to say something nice about some one or something when you feel it sincerely.

E. H. TERRILL, M.D., *Editor,*
Sedgwick County
Medical Bulletin
Wichita, Kan.

▲

Of Future Value

To the Editor:

It is indeed a pleasure to know that the copies of HYGEIA are now our own to keep for future reference instead of, as before, to have to return them to the library. Since we have three children, two of them in sixth grade I know these copies will be invaluable to them in the future.

The November issue is also filled with useful help and knowledge. It is difficult to say which article is the best. One is as interesting as the other. From cover to cover this issue deserves the highest compliments.

MRS. WM. E. DOCHLING
Milwaukee

▲

Permissions Granted

To the Editor:

We are very much interested in your copyrighted material that appeared in the December issue of *Reader's Digest,* called "It Was Only a Scratch."

We do considerable work in training our employees along first aid lines, and many of them hold Red Cross certificates. We would like to know if you would allow us to mimeograph this article for use with our employees only.

B. P. BARNES, *Supt.,*
Dixie Mercerizing Company
Chattanooga, Tenn.

To the Editor:

I have read, with great interest, an article in the *Readers Digest* entitled "It Was Only a Scratch" which was condensed from HYGEIA and written by Lois Mattox Miller.

My particular work is safety and accident prevention, and this article mentioned is characteristic of some of the problems with which we have to deal in the Soil Conservation Service work. Permission is requested to reproduce the article as written in the *Readers Digest.* The purpose of this reproduction would be that it might be distributed to approximately thirty projects and thirty CCC camps doing Soil Conservation Service work within the twelve states comprising the Northeast Region of the United States. If permission is granted, it will be mimeographed and distributed to government personnel in the interest of accident prevention work.

J. BLAIR MUFFLEY, *Head,*
Regional Safety Section
U. S. Department of Agriculture
Upper Darby, Pa.

To the Editor:

We have just noted in a recent issue of *Reader's Digest* an article entitled "It Was Only a Scratch" condensed from HYGEIA, which we should like to have permission to reprint in our house organ, "Thompson's Restaurants Organization News."

Will you kindly let us know if it is permissible to reprint this article and, if so, the conditions and stipulations prescribed by the publisher.

D. L. POWELL,
John R. Thompson Company
Chicago.

To the Editor:

We note from a footnote at the bottom of page 56 of the December 1939 issue of the *Reader's Digest* that the article "It Was Only a Scratch" condensed from the December 1939 issue of HYGEIA is copyrighted by your association.

We have recently had an epidemic of infections of various kinds among the men employed at the plant of our associate company, the Spring City Foundry Company, Waukesha, Wis. This article points out the danger of infection from trifling wounds so clearly and simply that we think it would have a favorable effect in helping to reduce the danger from infections if distributed to the employees of our three associated companies, and we would like to have your permission to make copies for such distribution if it is your policy to grant such permission.

ARTHUR L. GREDE, *Vice President,*
The Liberty Foundry, Inc.,
Wauwatosa, Wis.

To the Editor:

I would like permission from you to use article entitled, "It Was Only a Scratch" by Lois Mattox Miller, in connection with safety work in our company.

ELDON E. BECK, *Safety Director,*
Idaho Power Company
Boise, Idaho

The PLATFORM for HEALTH

Adopted by the American Medical Association

THE House of Delegates of the American Medical Association has repeatedly expressed its conviction that certain fundamental processes are necessary in our government in order to provide the utmost for our people in relationship to the prevention of disease, the promotion of health and suitable medical care for all the people. At a recent meeting in Chicago, the Board of Trustees of the American Medical Association formulated these concepts into a platform, which indicates the trend which the American Medical Association believes should be followed in the future development of governmental relationship to medical care.

1. **The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.**

Today the medical and health functions of the United States are divided among a multiplicity of departments, bureaus and federal agencies. Thus, the U. S. Public Health Service is in the Federal Security Agency; the Children's Bureau in the Department of Labor; the Food and Drug Administration in the Department of Agriculture; the Veterans' Administration and many other medical functions are separate bureaus of the government. The WPA, CCC and PWA are concerned with a similarity of efforts in the field of preventive medicine. The Federal Works Administration and the Federal Housing Administration also have some medical functions.

Since 1875 the American Medical Association has urged the establishment of a single agency in the federal government under which all such functions could be correlated in the interest of efficiency, the avoidance of duplication and a saving of vast sums of money. Such a federal health agency, with a secretary in the cabinet, or a commission of five or seven members, including competent physicians, would be able to administer the medical and health affairs of the government with far more efficiency than is now done.

2. **The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.**

The physicians of the United States have given freely of their time and of their funds for the care of the sick. Their contributions to free medical service amount to at least $1,000,000 a day. The physicians of this country have urged that every person needing medical care be provided with such care. They have urged also the allotment of funds for campaigns against maternal mortality, against venereal disease and for the investigation and control of cancer. The medical profession does not oppose appropriations by Congress of funds for medical purposes. It feels, however, that in many instances states have sought aid and appropriations for such functions without any actual need on the part of the state, in order to secure such federal funds as might be available. It has also been impossible, under present technics, to meet actual needs which might exist in certain states with low incomes per capita, with needs far beyond those of wealthier states, in which vast sums are spent.

It is proposed here simply that Congress appropriate such funds as can be made available for health purposes; that these funds be administered by the federal health agency, mentioned in the first plank of this platform, and that the funds be allotted on proof of actual need to the federal health agency, when that need is for the prevention of disease, for the promotion of health or for the care of the sick.

3. **The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.**

Obviously if federal funds are made available to the individual states for the purposes mentioned in the second plank of this platform, there might well be a lessened tendency in many communities to devote the community's funds for the purpose and, in effect, to demand that the federal government take over the problem of the care of the sick. Hence, it is suggested that communities do their utmost to meet such needs with funds locally available before bringing their need to the federal health agency and that the federal health agency determine whether or not the community has done its utmost to meet such need before allotting federal funds for the purpose.

4. **The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.**

The medical profession is not static. It wishes to extend preventive medical service to all the people within the funds available for such a purpose. Obviously, this will require not only a federal health agency which may make suggestions and initiate plans but also a mechanism in each community for the actual expansion of preventive medical service and for the proper expenditure of funds developed both locally and federally. In

the development of new legislation, such mechanism may be suitably outlined.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

The medical profession does not yield to any other group in this country in its desire to extend medical care to all those unable to provide themselves with medical service. The American Medical Association through its House of Delegates has already recognized the possible existence of a small group of persons able to provide themselves with the necessities of life commonly recognized as standard in their own communities but who are not capable of meeting a medical emergency. It is recognized, however, that only persons of the same community fully familiar with the circumstances can determine the number of persons who come under such classification. Only persons in actual contact with such instances are capable of administering suitably and efficiently the medical care that may be required. Hence, it is the platform of the American Medical Association that medical care be provided for the indigent and the medically indigent in every community but that local funds be first utilized and that local agencies determine the nature of the need and control the expenditure of such funds as may be developed either in the community or by the federal government.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

In the so-called National Health Program it is asserted that one-half the counties of the United States are without suitable hospitals, and vast sums are requested for the building of new hospitals. In contrast, reputable agencies within the medical profession assert that there are only thirteen counties more than 30 miles removed from a suitable hospital and that in eight of those thirteen counties there are five persons per square mile. In the United States today the percentage of hospital beds per thousand of population is higher than that of any other comparable population in the world. This fact is completely ignored by those who would indulge in a program for the building of great numbers of new hospitals.

Moreover, it seems to be taken for granted that hospital building has languished in recent years; whereas, considerable numbers of hospitals have been built with federal funds by various state agencies and also by the PWA, the WPA and the Federal Works Administration.

Analyses may indicate that in many instances such hospitals were built without adequate study as to the need which existed or as to the possible efficient functioning once it was erected. Moreover, there is evidence that in recent years many of the hospitals of the United States known as nonprofit voluntary hospitals have had a considerable lack of occupancy, owing no doubt to the financial situation in considerable part. It seems logical to suggest then that such federal funds as may be available be utilized in providing the needy sick with hospitalization in these well established existing institutions before any attempt is made to indulge in a vast building program with new hospitals. In this point of view the American College of Surgeons, the American Hospital Association, the Catholic Hospital Association, the Protestant Hospital Association and practically every other interested voluntary body agree.

Again, it has been argued that the demands for medical care in some sections of the country might require the importation of considerable numbers of physicians or the transportation of numbers of physicians in the areas in which they now are to other areas. In this connection it would seem to be obvious that a change in the economic status of the communities concerned would result promptly in the presence of physicians who might be seeking locations. The utilization of existing qualified facilities would be far more economical than any attempt to develop new facilities.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

In the United States today our sickness and death rates are lower than those of any other great country in the world. This fact was recognized by the President of the United States when he sent the National Health Program to the Congress for careful study. The President emphasized that a low death rate may not mean much to a man who happens to be dying of tuberculosis at the time. The medical profession recognizes the importance of doing everything possible to prevent every unnecessary death. At the same time it has not been established by any available evidence that a change in the system of medical practice—which would substitute salaried government doctors for the private practitioner or which would make the private practitioner subject to the control of public officials—would in any way lower sickness and death rates.

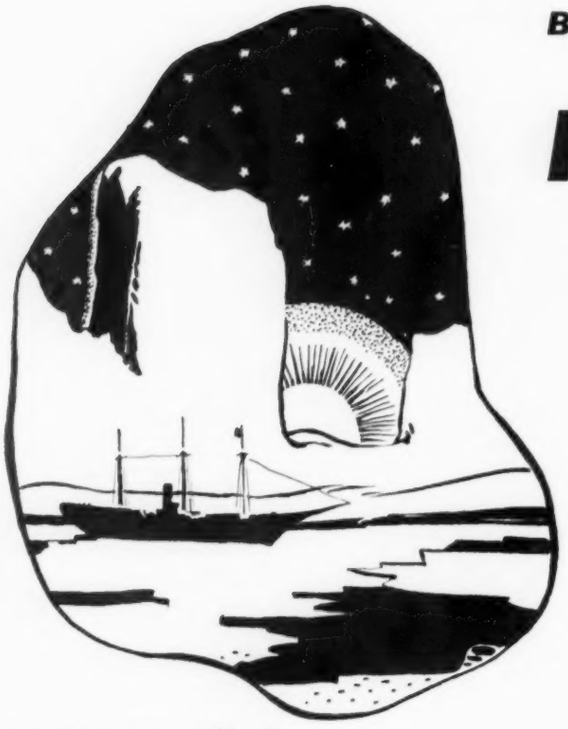
There exists, of course, the fact that some persons are unable to obtain medical service in the circumstances in which they live and that others, surrounded by good facilities, do not have the funds available to secure such services. Obviously, here again there is the question of economics as the basis of the difficulty and perhaps lack of organization in distribution of medical service and a failure to utilize new methods for the distribution of costs which might improve the situation.

The medical profession has approved prepayment plans to cover the costs of hospitalization and also prepayment plans on a cash indemnity basis for meeting the costs of medical care. It continues, however, to feel that the development of the private practice of medicine which has taken place in this country has led to higher standards of medical practice and of medical service than are elsewhere available and that the maintenance of the quality of the service is fundamental in any health program.

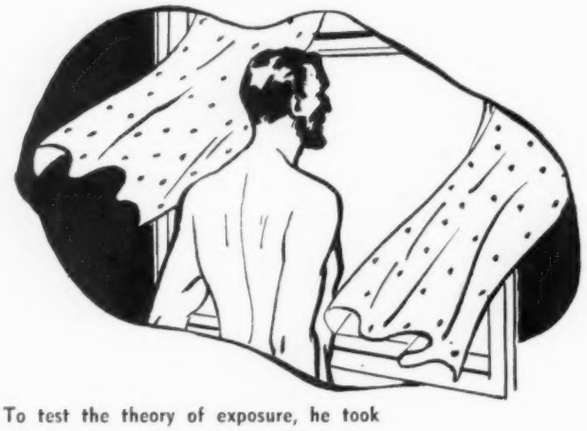
8. Expansion of public health and medical services consistent with the American system of democracy.

Careful study of the history of the development of medical care in various nations of the world leads to the inevitable conclusion that the introduction of methods such as compulsory sickness insurance, state medicine and similar technics results in a trend toward communism or totalitarianism and away from democracy as the established form of government. The intensification of dependence of the individual on the state for the provision of the necessities of life tends to make the individual more and more the creature of the state rather than to make the state the servant of the citizen. Great leaders of American thought have repeatedly emphasized the fact that liberty is too great a price to pay for security. George Washington said, "He who seeks security through surrender of liberty loses both." Benjamin Franklin said, "They that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety."

In these times, when the maintenance of the American democracy seems to be the most important objective for all the people of this country, the people may well consider whether some of the plans and programs that have been offered for changing the nature of medical service are not in effect the first step toward an abandonment of the self reliance, free will and personal responsibility that must be the basis of a democratic system of government.



If you want to escape colds altogether, go to one of the poles.



To test the theory of exposure, he took a bath, then stood before a cold breeze.

A locomotive engineer in his drafty cab is less likely to catch cold than his passengers behind.

By LOIS MATTOX MILLER

Public Malady

THERE is scarcely a disease that doctors know they know less about, or laymen think they know more about, than the common cold. This comparatively blank space in medical science has, in default, been occupied by the dogmatism of the ordinary citizen, eager to tell the world what he did for his cold and how he caught it.

For centuries people have attributed colds to cold air—and shut their windows at night. The Frenchman says, "J'ai attrapé un refroidissement"; the German, "Ich habe mich erkältet"; even the ancient Romans said "Frigus accepi"—all meaning "I've caught cold." And all implying that the way to avoid colds is to flee from zero temperature.

As a matter of fact, if you want to avoid those midwinter snuffles, don't go to Florida—go to one of the poles. None of the men on Sir Ernest Shackleton's Antarctic expedition caught cold until they opened bales of clothing packed in London. A Johns Hopkins expedition under the auspices of the Rockefeller Institute headed by two doctors went to Spitzenbergen, halfway between Norway and the North Pole to study the common cold. All winter long, with the thermometer steadily below zero, none of the 507 people in Longyear City, the world's northernmost settlement, had a cold. Yet many of them lived in overheated, overcrowded barracks and traveled through ghastly weather to work all day in a frozen coal mine. In May, a ship arrived from Norway. The doctors examined crew and passengers before they landed, finding no cases of cold, except for one man who was just beginning to sniffle. A week later Longyear City had eighty-four cases of cold; two months later 90 per cent of the population had had a cold. Thus it was proved that colds are caused not by low temperature but by contact with a person who is infected with the germs of a cold.

If you sit in a draft when you're perspiring, or wear wet clothes in chilly weather, aren't you almost sure to catch cold? Not necessarily. Neither Nansen nor his men ever had colds, although their clothes, saturated with sweat, froze to ice during the day and thawed out gradually at night, chilling them to the marrow.

Number One

In spite of his 57 years and a tendency to snuffles and bronchitis, Prof. Karl Chodounsky of Prague, undertook to test this common belief with heroic scientific zeal. He sat for five minutes in a bath heated to 112 F., then stood naked for one hour before a window, through which blew a wind of 36 F. He failed to catch cold, so he took a cold bath at 46 F. and stood naked for 54 minutes in a draft at 38 F. Even this didn't work, so he wrung out a shirt soaked in icy water, put it on and sat for half an hour in a near freezing draft. Still he didn't catch cold. Proving—after many similar difficult experiments—that there is no sure connection between catching a cold and the conditions most persons believe are its commonest causes. But not proving, unfortunately, that some people do not react to sudden changes in temperature or drafts.

Cases of common colds outnumber any other disease 25 to 1. There are probably 200 million colds a year in the United States, costing billions of dollars in lost wages and bills for medicines and doctors. Yet because colds are usually trivial—no one ever died from an uncomplicated cold—medical science has rightly neglected them in favor of such mortal plagues as cancer, pneumonia and tuberculosis. A search of medical literature yields few experiments on the common cold. In recent years, however, the doctors have systematically tried to solve this mystery. Many important things have been learned that weren't known before, but a lot of the knowledge is negative and won't help the sufferers. We know from careful studies of colds among male and female, weak and strong, rich and poor, Jews and gentiles, black-eyed persons and blue-eyed persons that the common cold is no respecter of individuals. From other studies we know that there is no clear connection between cold epidemics and temperature changes, that there are just as many epidemics in Rio de Janeiro or southern California as there are in windy Chicago or foggy Portland. And we know that the locomotive engineer in his drafty cab isn't nearly as likely to catch cold as the passengers in the stuffy cars behind.

But one very important thing about colds we do know. Medical men are now pretty sure

Sneezing in crowded places gives the cold germ a chance to travel to some one else.

that colds are caused and spread by an organism which they cannot see and to which they have not given a name. It belongs to the class of submicroscopic organisms known as "filtrable viruses" because they are small enough to pass through a porcelain filter, which will catch ordinary bacteria. This explanation of the origin of colds was clinched by some careful experiments with chimpanzees conducted by Dochez and his associates at Columbia University. The chimpanzees—chosen because they are the only animals susceptible to human colds—were kept cold free in individual sterile rooms and fed by attendants dressed in sterile hoods, gowns and rubber gloves. Then one animal was infected with virus from a human case of cold. He caught it, was brought into contact with another chimpanzee, and so from chimp to chimp the infection spread as fast and as far as the scientists would allow.

Our friendly, gregarious habits make the round robin travels of this virus extremely rapid. We sneeze in crowded rooms, and the virus rides the air on tiny droplets until the next victim breathes it in. (It is about five hours before the virus-laden spray has lost its power to spread a cold.) We blow our noses politely and then shake hands with a friend, who later takes a pencil in that hand and puts it to his mouth. Or we kiss and give our love and our virus too. Or we leave it on doorknobs for the next comer. Or we dine out, and deposit it on plates and tableware to be served

up—since dish water is seldom hot enough to destroy it—for our hosts at their next meal.

Experiments made by Smillie, professor of public health at Cornell University Medical College, have shown one particularly important fact. The virus dies quickly when we have a cold. After three or four days, when most of us are knee deep in paper handkerchiefs and telling our friends to keep away, the virus is no longer a threat to others. But it began to be a threat in the first stage of the cold, some hours before even the sufferer himself suspected that a cold was on the way. Some persons with colds have the decency to quarantine themselves or like lepers go about ringing a bell and calling, "I have a cold." But by the time they know they have one, their friends and families may already have been exposed.

Believing that a filtrable virus was the cause, scientists have worked hard to develop a vaccine against colds. It has so far not proved very successful. After vaccinating infants under carefully controlled conditions in an institution, a New York physician found that the vaccinated babies had less severe colds than the unvaccinated, but just as many. And the immunity, such as it was, didn't last more than two months. At the Universities of Michigan and Minnesota, where hundreds of students were vaccinated year after year, some with real vaccine and some with a neutral fluid, the record was discouraging, and some of the students who had been given the neutral fluid reported fewer colds. Twenty thousand vaccinations among telephone employees showed little reduction in the number of colds. But with certain individuals the vaccine seems to work, and on the whole it does seem to make colds lighter.

Aren't there other ways to arm ourselves against colds? Yes, there are. If every employee who turned up for work, every child who came to school, with a running nose were sent home and told to stay there, the community would have fewer colds. But what can the individual do in a world not yet sufficiently civilized to take these drastic steps? Very little. There is no evidence whatever that a good diet, or cod liver oil, or vitamin pills, or the fad of ultraviolet radiation, or bare legs, or cold baths will themselves prevent a cold. While keeping in good physical condition does help to lessen discomfort and prevent complications, it won't prevent colds. There's only one thing that will: Go into solitary confinement, and boil everything touched by human hands. Or sign up with Admiral Byrd.

All right, since it cannot be prevented, we've caught our cold—now how do we cure it? All that the doctors can say (at any rate the wise ones who have studied the subject) is, "No treatment has been devised which will shorten this period of discomfort. Go to bed." Advice which few upstanding citizens, accustomed as they are to precise and complicated treatment by their medicos for every other ailment, will tolerate or obey. So the citizens roll their own.

Finding nothing in medical journals on the important subject of cold folklore, I asked more than 200 persons of all kinds and all degrees of education what they did for a cold. The astounding variety of the answers illustrates the axiom of medical men that whenever a multitude of remedies is recommended for the same illness, no one of them can be a real cure. Here were alcohol packs, gym workouts, pink pills, lemon juice ("to build up the white corpuscles"), cough medicine, bicarbonate, Rock and Rye, quinine, laxatives, chest ointments, mustard baths, skunk oil, soda and ammonia, sheep tallow, turpentine, goose grease, cupping [drawing blood] and of course liquor and several dozen "patent medicines." On the whole, women preferred aspirin and men whisky.

A street cleaner said, "Nobody that chews tobacco will get head colds." A farmer went on a diet of milk and oranges, varying it with getting drunk—which last, he admitted, "is hit or miss." A taxi driver said: "I take a hot oyster stew with lots of red pepper and drink three glasses of beer along with it." A woman editor: "I go straight to a chiropractor, and he works it right out of me." A clerk: "Eating lots of boiled onions always clears up a cold." Another taxi driver: "My old lady makes me and the kids wear this bag of asafetida round our necks. I never have more than three or four colds all winter."

A traffic cop (they seem to have fewer colds than most people): "I take cod liver oil, a large bottle every week through the winter. By the time spring comes, your body is yellow, and you smell fishy, and the stuff is oozing out of your pores. But for twelve years I've never had a bad cold."

Few such "remedies" do any harm, say the doctors; some of them will make you feel better; but none of them will actually shorten a cold by so much as one day. But in one sense they can do harm: By alleviating its symptoms they cause people to disregard a cold's real danger, which is that of complications. The doctor's own recommendations are so much less cororful and *(Continued on page 58)*

DON'T make resolutions!

By Smiley Blanton, M.D.

Do you have a guilt complex with which you must wrestle at this time every year? And then do you resolve never again to . . . ? New Year's resolutions never adequately reform any one's bad habits. So don't even make them!

ALL over the land today people are making or have made New Year's resolutions. The plump matron has determined to avoid bread, potatoes and desserts; and the refreshment counter with its delicious malted milk egg chocolate will see her no more. The pestered business man has determined to stop worrying, to work harder, to keep his temper, and in the evening, instead of sitting on the end of his spine smoking a black cigar and reading an interesting novel, he will pace the deserted streets for at least four miles. The college student, who ruefully contemplates the poor marks of his mid-semester's examinations, highly resolves to avoid the movies, to refuse the invitation to the bridge game after supper and to spend his evenings studying the meaning of value and the economic forces that led to the Depression.

Such New Year's resolutions are considered to be worthy and virtuous. They are supposed to represent a repentent spirit and a

contrite heart. They do no such thing. New Year's resolutions are a means of defending ourselves against insight and change.

A canvas of New Year's resolutions would show that a majority of them represent a kind of self punishment rather than a technic of change, and in most cases they are so numerous and so harsh that there is no possibility of their ever being carried out. In a short time they are broken.

What strange impulse is it that makes us wish to punish ourselves at this season of the year? Christmas brings out the old feelings of joy and pleasure and dependence that we had when we were children. It also brings out some of the childish feelings of wrongdoing and of guilt from which all children suffer. This childish, hidden and often unconscious feeling of guilt is a powerful, perhaps the chief, motive for our New Year's resolutions.

The child must have the affection of his parents if he is to have a satisfactory life, but when he disobeys them he feels guilty. Every child offends in the process of growing up: Every child does things that give him this feeling of guilt. For example, he gets angry at his brothers and sisters when they interfere with him; he gets angry and bitter at his parents when they thwart him; he has childish practices which often give rise to profound feelings of guilt and shame. It is out of these feelings, however, that the child's conscience is developed.

Many of us have deep inside of our minds this childish sense of guilt, and the New Year, just following Christmas, is a time when we can make restitution for this sense of wrongdoing. In our deepest mind our infantile conscience becomes a stern and disciplinary parent.

There is another reason, however, why New Year's resolutions are quite inadequate as a means of helping us lead a more satisfactory life. Not only do these resolutions represent a childish and futile sense of guilt, but they approach the matter from the outside instead of the inside.

If a man feels that he is lazy, that he does not work hard enough, it is not sufficient for him to resolve to work harder. He must find out the cause of the laziness. Perhaps he is ill,

or the work he is doing is unsatisfactory, or his work habits are poor. There is some underlying reason for his feeling of inadequacy.

Unwise indulgence in alcohol, overwork, laziness, extravagance, miserliness, overeating —all are symptoms which cannot be modified by even the most rigid and honest New Year's resolutions, for dealing with a symptom itself is inadequate. The cause must be discovered.

To illustrate: John Allen found that each year he had unwisely squandered at least half of his income. He had various ways of losing money; the chief was to make foolish and unwise investments which he could have avoided by the application of common sense. An analysis of the cause of this behavior, however, showed that he was neither stupid nor unlucky but had a profound sense of guilt. Squandering his money was sort of a bribe to fate. It was the unconscious mind's way of paying for his guilty deeds which, by the way, he had not committed.

Many of us have deep inside our minds this childish sense of guilt, and the New Year, just following Christmas, is a time when we can make restitution for this sense of wrong-doing. In our deepest mind our conscience then becomes a stern disciplinarian.

Perhaps the following story will illustrate how unhappy and unfortunate and unsatisfactory habits can be modified and changed. The president of an extremely successful company immersed himself entirely in his work, to the exclusion of all else. He worked long hours and then went back to his office on Sundays and on holidays. This immersion in his business was entirely unnecessary. He had associates and assistants who could have taken the main burden of the work from him. All his resolutions to stop this regimen were fruitless. His work called him, apparently, with a voice that could not be withstood. His intense work was a compensation for a morbid feeling of inferiority. It was only by making a great success of his business and accumulating a lot of money that he could prove himself to be a real man. His feeling of inferiority was based on early childish relationships, and when he was able to appreciate this, he was able to change.

Another reason against harsh New Year's resolutions is that they tend to make us harsh toward other people. If we decide never to take another frosted chocolate, we immediately want a law passed that no one shall have frosted chocolates! We are like the old lady of whom Robert Louis Stevenson speaks: She had no dolls when she was a child, and so when she grew up she wanted a law passed that no child should have dolls to play with.

It is only when we can be sympathetic with ourselves that we can be sympathetic with others. We do not go to people who are harsh with themselves for tender dealing!

Most people find it difficult to develop insight. They would rather make a series of harsh resolutions, giving momentary satisfaction, and then break them and return to their old way of living.

One should be under no illusions as to the difficulty of changing the accustomed way of doing things. If one is accustomed to walk to work on a certain street, it will be difficult to change to a neighboring street, even though it may be just as convenient. And if it is difficult to make even such a slight change in our behavior, how much more difficult it is to change a deep, fundamental and ingrained habit.

However, if one must make New Year's resolutions, it is well to make only one at a time: to take some undesirable habit and work on it until a more desirable type of behavior has been substituted for it and not until then to go on to the next.

One New Year's resolution which might be helpful would be to resolve firmly not to try to reform other persons. The best thing we can do for our neighbors is to lead a reasonable and satisfactory life ourselves and to learn to be tolerant of ourselves and of others.

Harsh and disciplinary resolutions often drive the individual to such an extent that he becomes ill either physically or psychologically. Chronic fatigue is one of the commonest symptoms of this morbid drive.

And, finally, it might indeed be well to admit to ourselves that maybe we are not as bad as we think and that it is not always wise to strain to reach some impossible and illusionary ideal of perfection. One cannot always strive to "go ever up and onwards." An idle hour is not always a wasted hour. Perhaps we would be better citizens, better parents, better friends, if we could accept some of our more amiable weaknesses with a sense of humor, which would lead us to have a more sympathetic appreciation of the weaknesses of others.

AGE—the Great Adventure

By CARL BOND

YOU are 50! So you heave a sigh, let your shoulders droop and ruefully decide that nothing can be done about it. But there is plenty that can be done about it. But it all must be done by *you*. Others may help, but the big part of the job is yours. Think back to when you were 20. Then you realized that you were about to become a man and a citizen with duties and responsibilities. Doubts

Stephen Deutch

The languor that makes an armchair feel so friendly to your bones does you good.

assailed you, and there might have been at times even a little dread. Well, you overcame all that. However, as the cliché phrases it, you are now "at the crossroads." But it is a crossroads where, if you choose your course wisely, you may find yourself on the path to the Big Adventure.

For, the journey toward and down the Sunset Trail really is the Big Adventure. You have left behind you, perhaps, a record of fair or even good accomplishment, and you want to keep on being a "doer." You can, if you learn without fretting that you must slow down the pace, conserve energy and make the best of what can be and should be contented years to come. You can do it, if you put your will power to work.

This isn't to be a succession of "don'ts," although there are some don'ts that are unavoidable. Perhaps the most important one is: Don't mourn. It is a waste of time to mourn, and it exposes a weakness to others through which they may drive home jabs that will wound you. There is something almost ridiculous in the attitude of mourning assumed by all too many at the half-century mark. But there are ways by which you may make your stroll down the Sunset Trail a happy experience. And, here are a few thoughts that come to one who now regards 50 as an age of comparative youth with many good things ahead.

The covert or open insult, the disparaging remark based on your age, the exclusion from a grand party because it is being given for "younger persons"—these and a hundred kindred slights cut deeply. All you can do about it is to maintain a stoic frame of mind well hidden under a smile. Take the insult and the disparaging comment as a duck takes the rain, and let it all roll off your back. Store up a few of the insults in your mind, if you wish, to be returned with interest when occasion offers; but learn to take them with a serene countenance, even if the innards be seething with rage. Keep in mind that those who are older than you will be the most eager to comment on your years, especially if you can walk faster and farther than they or perhaps even tread a measure with a lady—provided it be a moderately sedate measure. And, here is another don't: Don't let yourself forget that a certain decorum in public is demanded of all when the forties are gone and the sixties loom ahead.

Your health demands your thoughtful attention, with care being taken to banish all hypochondriac tendencies. If you haven't done it recently, go to your physician—the family doctor who knows you is the best man to consult—and let him give you a thorough going over, with the understanding that he will tell you the truth. You may be in far better shape than you think, or conditions may show up that call for medical treatment. The physician can straighten all that out for you, and you will feel a weight lift from your shoulders through just knowing how you stand. But, the physician can't do it all. Your cooperation, even your blind obedience may be necessary. If so, go along and play ball.

Weight is the big bugbear of the majority of men and nearly all women as they pass the half-century milestone. You may be underweight, but probably it is the other way around. If you are a man and fat or a woman who is more or less plump, the physician may prescribe exercise and a diet. He supplies the prescription, but it is your task and yours alone to follow orders. Play ball, and you will get astonishingly pleasant results. That bulging tummy will shrink; you will look better, and your clothes will again become ornaments of your body instead of concealments of defects. Moderation should rule in all you do to take off weight. Reducing more than 2 pounds a week is likely to be harmful. The rate of weight loss is less important than that progress be steadily made to cut down the paunchy overhang and get the breathing to an easier basis during exercise. When you find you aren't getting winded so often from slight exertion, you may know you are on the right road. Getting rid of excess fat calls for less food and drink. There is no royal road to slimness or the relative slenderness you desire, and the only safe way to accomplish good results is to consume less but at the same time maintain a varied dietary. While you are reducing and perhaps for some time thereafter, it may be necessary to make special provisions to assure adequate intake of essential food elements. These vital elements include the known vitamins and the minerals. The physician is the one to tell you what products and in what form you should take them. Eat less of everything, drink less fluids, regulate your use of starches and sugars, in accordance with your directions, exercise moderately and you will be healthier and happier. Also, you will look better. And, it is a grand and glorious feeling when the old paunch shrinks and shrinks.

Exercise can be and usually is wofully overdone, especially by those who try to hurry the slow processes of nature. Whether you like it or not, walking is still man's best standby in keeping a good circulation, firm muscles and a dependable breathing apparatus. A light

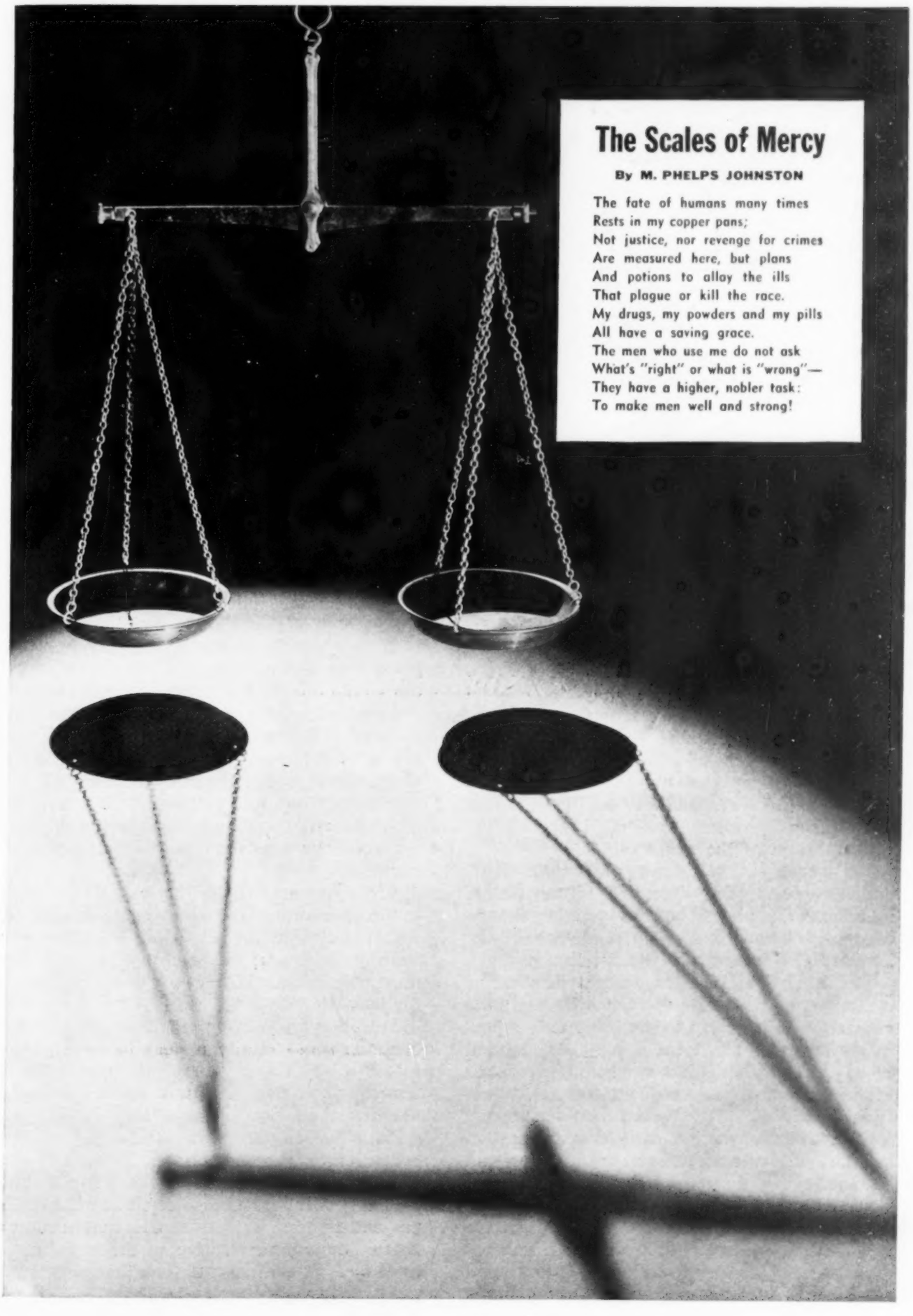
setting-up drill, adjusted to your age and condition, is helpful the first thing in the morning. It should be slow, lasting from six to eight minutes, and should include work for the arms and legs as well as some stooping, bending and twisting. In this way, at the very start of the day, a gentle stimulation is given the circulatory system. Golf, if you like it and if your doctor approves, may be beneficial if you do not go at it too strenuously and if you do not become unduly agitated about it through loss of temper or chagrin at your score. Tennis is not for old-timers. It asks the heart to do more than an oldster's engine should ever be asked to do. But, whatever you do for exercise, be moderate. Remember that fatigue is an enemy all along the line.

The use of energy is most important. Everything you do uses up some of your power. No matter how young and vigorous you may feel, take time out for rest whenever you can. In business you will have to conform to the pace set by competitors, but in your private life you can and should regulate things so that you rarely or never become unduly tired. The languorous fatigue that makes an armchair feel friendly to your bones and muscles is not at all harmful, even does good. It is that dead-beat weariness that weakens you and lessens your resistance to colds and influenza. Keep in mind that digestion uses up a lot of energy, especially when the stomach is overloaded. So guard your use of power to the end that you may still be powerful as the years roll on.

Children are supposed to be taught behavior. Dancing classes are regarded as places where youngsters are taught manners, even more than they are instructed in dancing. Unfortunately, there are no schools to show oldsters how to conduct themselves after the 50 year age. But, if ever there were a time when such instruction is sadly needed, it is at the stage where we should realize that we no longer are in the swim of things, but where we do not wish to be entirely on the outside. Probably the best rule to lay down is that we should strongly resist the temptation to pretend we are as young as we were. We aren't, and that is all there is to it. The next best rule is to shun the temptation to try to look younger than our ages or younger than we seem to be. Some look older than they should. Others are blessed by not showing the march of time. You not only have a right to put your best foot forward, but it is a duty you owe yourself to keep up whatever is necessary to present a "good appearance." Be well groomed at all times. Dress neither as a youth nor as a "has-been." Go to parties if and when invited; but, on your life and the last shred of your self respect, do not try to be "the life of the party." That only makes the girls laugh at you. There is fun to be had within the limits of dignified behavior.

Self adjustment is hard to manage when age comes on us, creeping like a thief in the night. We can take care of health, endure the insults and regulate deportment with comparative ease. All that relates to externals. It is when it comes to the things within ourselves, our thoughts, our impulses, our lack of impulses if we be that kind of oldster, our hates, our likes or dislikes and our ills of the spirit, that life itself seems to become irksome at times. This sort of let-down must be conquered, if there is to be even a little contentment in the years to come. There are different methods of making this self adjustment, different because our temperaments are different. What is good for the extrovert may be baneful for the introvert. We must study ourselves without becoming harmfully introspective. In my own case, when 50 hit me, I sought to gear my mind as well as my body to the new order of things. I realized that I was only a day older than when I still could call myself a forty-niner and that optimism could be retained for many years, provided my mind could be kept cheerful. The inner smile, as it were, not the smile turned toward the public, struck me as most important. Help toward this goal, which has never quite been attained, came my way in the writings of the more humane of the philosophers and in reading some good, worthwhile books—even rereading some of the classics I had enjoyed as a boy. The daily newspaper, magazines and publications of humorous and satirical trend were devoured.

Much of what is to be done at 50 may be learned from the platform of a noted financier of the twenties, who, when he had passed 80, told an inquirer he believed his mental and physical strength had been kept past the fourscore mark because he had taught himself at 50 to look always forward—never backward. Tomorrow, he declared, is ever and always the important day, never yesterday. He put all reminiscences out of his mind as much as possible and made it a rule never to talk of his boyhood. This man actually was young in mind and far from decrepit physically, up to within a few months of his end, which came to him when he was 88. There is the guidepost for all: Think only of tomorrow, plan for tomorrow, and prevent your brains from calling up thoughts of yourself in the past tense. Do this and you will make your adjustment easier.



The Scales of Mercy

By M. PHELPS JOHNSTON

The fate of humans many times
Rests in my copper pans;
Not justice, nor revenge for crimes
Are measured here, but plans
And potions to allay the ills
That plague or kill the race.
My drugs, my powders and my pills
All have a saving grace.
The men who use me do not ask
What's "right" or what is "wrong"—
They have a higher, nobler task:
To make men well and strong!

If young persons understand the factors involved in their problems, they will handle them much better in their social contacts.

The Place of

"RESPECTABLE" opinion supports the contention that sex education has no place in the public school curriculum. Opinions should not carry much weight with one who subscribes to the scientific method of solving problems, but my own judgment is that the school curriculum will be deficient until it has properly integrated a scientific consideration of the sexes as such.

Legislation in Michigan passed in 1937, which permits such education in the public schools, reveals a widespread popular change of opinion from that which made school sex instruction contrary to statutory law.

The term Social Hygiene might be used as synonymous with Public Health, but the restriction of the term to sex hygiene is generally accepted. The term is possibly justified by expediency, but it is subject to the criticism of being evasive and confusing. I am, therefore, confining this discussion to a broad interpretation of the inclusion of sex education in the curriculums of public and private schools.

The construction of a curriculum means one thing for the school man governed by tradition and another thing to the member of the Progressive Education Association. I assume that the latter educator would be more inclined toward the point of view that sex education has a place in the school curriculum.

Recent agitation of the problems of syphilis by leaders of public health has no doubt disturbed a dog which many schoolmen would probably prefer to leave asleep. This program of disease control may be fairly limited in scope, but it certainly will place great stress on preventive measures. Prevention means education, and the schools are, of course, so basic in any program of important and sustained education that they may as well anticipate dealing with this public health campaign. It probably will be viewed as one more item related to the whole question of school health work. A sex education program in schools, even with its present limited meaning, may extend well beyond the boundaries of most school health work, but it would probably be handled best as a health question primarily. But however administered, the approach to this problem of sex relations needs a sharp departure from tradition.

There appears to be fairly general agreement in the opinion that sex problems have not been well handled in the education of young persons, and among the reasons for this, one must consider methods of approach or reasons for lack of approach.

Traditionally, reason, biologic science and common sense reality appear to have played minor roles. One suspects that unreasonable, unscientific, theological and patriarchal influences have made worse an already complicated social situation. Certainly, there still remains confusion for the schoolman as to what, if anything, the schools are to do about it all. This probably will not be much clarified until teachers and administrators get themselves onto a better foundation relative to the problem as a whole. It is doubtful that the question is necessarily so delicate and so laden with dyna-

Sex Education in School

By WARREN E. FORSYTHE

mite that schools generally should fear to touch it, lest it explode and blow off a roof. (A rational biologic approach will probably find the children unembarrassed and relatively free from nervous blushing) and other frequent manifestations of the emotional disturbances shown at present by many chronologically adult persons who approach the problem. Parents and teachers need a better hold with which to grasp the problem.

Presentations based on our ideas of reason and biology have been most satisfactorily accepted by school children of considerable age variation and in mixed groups. The following paragraphs suggest facts, acceptable to children, which give avenues of approach and foundations on which teachers may recover from their dizziness and stand firm, whatever they may or may not do in the way of program development.

It should not be so difficult to develop in children an understanding of the fundamental life conflicts between the nature of man and the demands of our highly artificial social organization. Whether they like it or not, an adjustment between these frequently conflicting elements can be presented as basic in the process of growing up and becoming mature in our society. And what adolescent does not wish to think of himself as mature? The control of certain naturally pleasant experiences can certainly be accepted rationally by the child in the valid interest of himself or others. Pleasures of eating—excesses, for example—dangerous play, alcoholic intoxication, automobile speeding and wasteful expenditure of money can be shown as necessary of control for reasons other than the "killjoy" or vague abstractions of goodness or piety. The socially justifiable control of certain naturally pleasant experiences can surely be established as marks of maturity.

Adolescents should play games together, for games furnish a gain in social graces and a release of energy.

As fitting into this general and rational pattern of controlling certain naturally pleasant experiences, one would integrate the emotionally satisfying bisexual contacts. Experience in, or observation of, adolescence leaves no doubt of attractions and pleasant reactions between sexes. The significance and questionable proprieties of these experiences as influenced by tradition give a fundamental pinch to the old shoe. This disturbing and distorting pinch is apparently relaxing gradually under many impacts of scientific and rational forces. Children can be helped to understand these bisexual experiences, all along the line from the simplest social relations up to the acts of reproduction, as being natural, biologic, healthful and proper in the scheme of racial survival. Attitudes should no longer be colored by unfortunate past notions that all these pleasant reactions are more or less improper, undesirable, sinful, shameful and dirty, to be experienced only in the dark or behind the barn. Understanding tolerance is not enough either.

In addition to being tolerant, parents and teachers may well consider their obligations to promote heterosexual experiences in children at the naturally favorable period of beginning adolescence. Many parents have their heads

in the proverbial sands of comfort, while their adolescent boy continues his earlier exclusive homosexual contacts unaware of their crippling influence on his later life. In the program of promoting heterosexual attitudes and experience, the point should be made clear that there is a deadline beyond which unmarried persons may not safely go. There can be given very definite, valid and comprehensive reasons for the limitation and the need for control at the danger lines. There should be no question in the mind of the adolescent as to his basic problem. He should understand it as an adjustment between the strong biologic urge for reproduction for which his body is ready and the fact that for very real social reasons he cannot reproduce until many years later. If young persons are clear as to the factors involved in their problems, they will handle them much better than without such understanding.

In a realistic consideration of choices in adjustment to this conflict, two roads are obviously open to the individual young person in going from his present position of biologic sexual maturity, with its urges, to the time when he will be in a position to carry on sexual activity in a socially approved manner. One road is that of freedom from any restraint, and the other consists of heterosexual relations controlled at some point short of the ultimate.

Certainly in making the choice of roads, the young person is entitled to information as to what is to be anticipated on each course. He certainly should know of the significant, real and important hazards to be encountered on the road of no self restraint and also be assured of the relative absence of hazards to be found on the road of self control. Those activities and situations which parents and teachers can promote to help the younger person follow the road of self control are of course pertinent to the whole question. Except in promoting alcoholic temperance, valid methods that promote control are not so well known. Other methods of value exist, no doubt, but they need evaluation. The contribution of Unwin gives us a valid sociologic and constructive basis to justify sex control. He supports the idea that social sex control promotes the release of social energy, resulting in social progress. Sexual control may spell neurosis; but certainly in our society, so does its unapproved free exercise. The positive social values of that humanly created element called "love" and the basic sex urge are not, so far as I know, reduced by self control. Unwin believes they would be increased.

Discussions of the hazards on the road of free exercise open up in proper setting the realistic problems of social disapproval, pregnancy out of wedlock and the venereal diseases. Further discussions of these hazards involve of course the propriety of social attitudes, methods of contraception and methods of disease prevention. The extent to which schools may present information on these questions is a problem, but doubtless it will be some time before public schools will be able to replace misinformation, unwholesome curiosity and undesirable attitudes with proper information, understanding and wholesome attitudes relative to these questions.

Some one may say, and probably with considerable validity, that we are dealing here with situations so dominantly emotional that reason can have little place. The extent to which children may acquire the ability to control their feelings on the basis of reason and the technic of such training are questions of general importance but much in need of investigation. At any rate, an approach to the problems of social hygiene which appeals to children as making sense should be given a trial. Such a program may find much that is emotional to use in support of its development.

Briefly stated, the end to be attained by sex education in schools would be a contribution to the objectives of the entire school curriculum. Specifically, sex education desires for all children the progressive development of ability to make socially desirable adjustments to this fundamental conflict and the valid demands on the part of our civilization for control. With success, one would have continent, heterosexually interested and experienced young men and women, sufficiently aware of their anatomy, physiology and emotions, possessed of attitudes favorable to control at the danger zone, and having ideals for a monogamous home life and at least a quota of healthy, happy children as are needed to perpetuate the race. Of course, one would have them free from devastating experiences with venereal disease, extramarital relations, homosexually distorted personalities and the like.

There are few seriously attempted and sustained efforts at carrying out a program of sex education in schools, but many teachers would be rewarded by success, if the effort were made in the pioneering spirit. Equipped with science, aware of the need, assured of pupil interest and resolved to render important service at a most strategic point, it would be an experience worthy of many of our devoted and unselfish teachers.

Don't Put Your Foot in It!

By LOUISE PRICE BELL

HOW LONG have you worn your present bedroom slippers? When did you last have them dry cleaned or washed? How often do you give them generous sun baths in the open air?

If you are perfectly honest, you will probably blush as you answer these questions, for the average person buys a pair of leisure slippers, wears them until they practically fall apart and gives them no hygienic care at all during the entire period!

We replace our suits and dresses with fresh new ones from time to time; we have them dry cleaned or washed at short intervals; we see that our under-things receive careful and frequent launderings, but we do nothing about this footwear, which is worn next to a part of our skin which often collects bacteria. Physicians agree that many a patient who, after careful treatment, overcomes "athlete's foot" and other foot diseases often reinfects his feet through the medium of his bedroom slippers in which the fungi still lurk!

Sonny and Big Brother occupy the same room and use the same closet. Amidst the conglomeration on the closet floor, Sonny grabs Brother's slippers instead of his own, forgetting that Brother is fighting perspiring odorous feet, and then Mother wonders a bit later why Sonny has the same foot trouble as his older brother. In the same manner any member of a family may be affected: Father hurrying to answer a midnight telephone call, fumbling for and not finding his slippers, walking across the same hall floor that Brother has carelessly crossed barefooted—and thus getting bacteria on his feet which later infect his slippers. It is a vicious circle, and this carelessness regarding house and bedroom slippers is a real menace.

We can't all afford new slippers at each change of the moon, but we can see to it that the ones we have are kept clean and free from germs. If our dry cleaning establishments disdain our requests to have our slippers cleaned, we can demand that such hygiene is necessary and thus educate them to this sanitary need. And we can do a great deal about the matter ourselves.

Felt, velour and velvet slippers are the most difficult to keep clean, because these materials catch and hold dust; but frequent brushings *inside* and *out* with a stiff brush kept for the purpose (and washed often) is a great help. The smooth surfaces of leather and kid slippers may be wiped quickly with a cloth wrung from hot water. Satin, silk and rayon ones may be sponged with a cloth saturated with a cleaning fluid. But the most sanitary slippers of all are undoubtedly those made from terry cloth, since they can be scrubbed with hot, soapy water and a stiff brush and are as good as new after a thorough drying in the sun. Some of these can even be tossed in the family washing machine.

Many Turkish baths and gymnasiums supply their patrons with paper slippers so that their feet will not touch the floor. These slippers may be destroyed after each wearing. When one has any foot infection, this might offer a fine solution and is well worth investigation.

Another suggestion is to purchase thin insoles when you buy your next slippers, but make sure that you discard them as soon as they are soiled. Or cut some from material that can be washed, even boiled. Place either type in the shoe before you start wearing the slippers, thus assuring yourself of clean material under foot at every wearing.

Take an inventory of the closets in your household. Inspect the slippers worn by each member of your family. And see if you don't decide that the subject of hygienic care of slippers should be brought up for family discussion and consideration. Educate yourself, your family and even your friends to the need of sanitary footwear for leisure hours.

Look critically at that brown leather "number ten"—if you are a man—or that attractive quilted satin "number five"—if you are a woman—and if it looks the least bit suspicious, don't put your foot in it!

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"PICTURE of HEALTH"

CONTEST

ANNOUNCING

Our First Photographic Contest

Hygeia announces a photographic contest, the first ever conducted by a health magazine. We have a long list of cash prizes and honorable mentions for which you will want to compete. The prize-winning prints will be published in *Hygeia*, and others not winning prizes may be bought for illustrative purposes.

Any one may enter. There is no entrance fee, no limit on the number of photographs you may send in. Each picture must relate to some health-building or medical activity, and each set of prints must be accompanied by the Official Registration Blank appearing herewith.

It is easy to take such pictures. If you are interested in sports, show a good action shot of one of these sports; if you have access to a hospital, take some hospital scenes; if there are children around your home, catch them in a characteristic pose or in any one of a dozen routine activities in which they participate; if you know something about photomicrography, send in your best photomicrographs. These are only suggestions to show the broad latitude of the "health angle" required of your photographs.

Authenticity, human interest and quality will determine the awarding of prizes.

PRIZES! PRIZES! PRIZES!

FIRST PRIZE	**$200.00**
SECOND PRIZE	**100.00**
THIRD PRIZE	**50.00**
NEXT FIVE PRIZES, each $10.00	**50.00**
NEXT TEN PRIZES, each 5.00	**50.00**
NEXT TWENTY-FIVE PRIZES, each $2.00	**50.00**
TOTAL	**$500.00**

12 Honorable Mentions . 1 year subscriptions to HYGEIA

55 PRIZES — 55 CHANCES to WIN

PHOTOMICROGRAPH

HOSPITAL SCENE

SPORTS

RULES of the CONTEST

1. All pictures must illustrate a medical or health-building activity.

2. Each photograph must carry on the back the typewritten or printed name and address of entrant. The Official Registration Blank appearing on this page *must* accompany each set of prints.

3. Submit any number of pictures. Montages or other special effects are not eligible. Prints must be at least 5 x 7 and mounted on a plain mat surface.

4. No employee of *Hygeia*, the American Medical Association or their families are eligible to enter the contest.

5. No picture is eligible for this competition if exclusive rights on it have been granted elsewhere.

6. Pictures will be returned only if accompanied by a self-addressed envelop or label with sufficient postage to cover return mailing. While exercising the utmost care in handling, *Hygeia* does not assume any responsibility for the loss or damage of entries.

7. The judges of this contest will be Torkel Korling, famous photographer; Austin A. Hayden, M.D., and Ethel S. Vernon, *Hygeia* Art Director. Their decision must be accepted by contestants as final.

8. All entries must be in the hands of the *Hygeia Contest Editor*, 535 N. Dearborn St., Chicago, by April 1, 1940. The winners will be announced in the June issue. In case of ties, duplicate prizes will be awarded. If any of these rules have not been complied with, the entry is immediately disqualified.

9. Prize winning prints, including reproduction rights, become the property of *Hygeia*.

10. The Contest Editor regrets that he cannot undertake correspondence with regard to entries.

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Name .....

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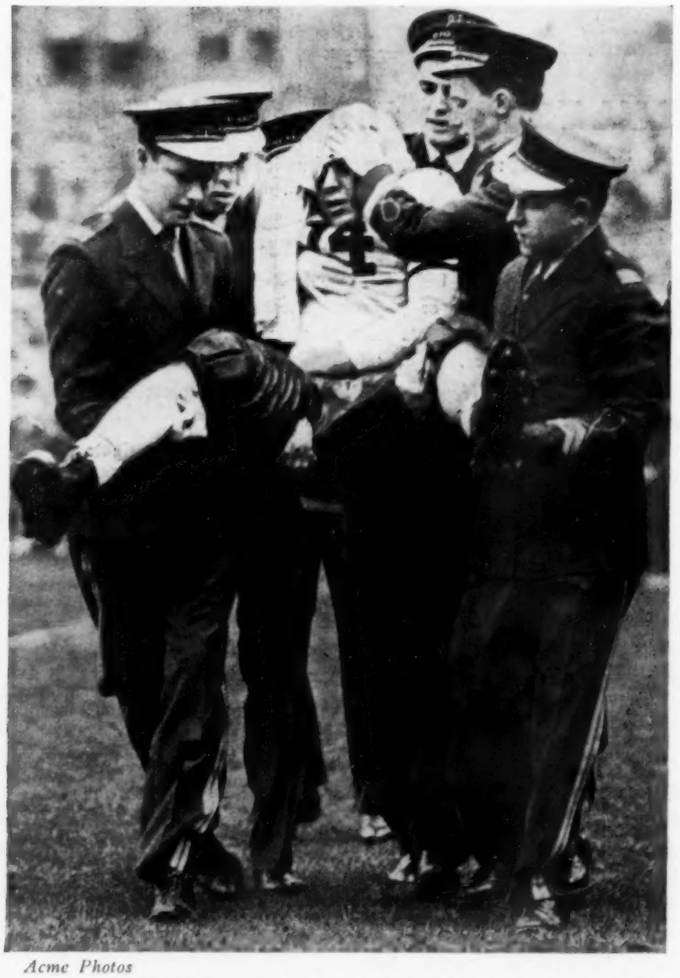
Do you subscribe to Hygeia? .....

Blocking armor makes this man practically impregnable to any injury during practice sessions.

Football Follies

Back in 1931 the educators began to reform football. At that time we said, "Football is not a game for the untrained; it calls for strength and courage; its accidents and fatalities need not, however, be inevitable. We must not condone the reckless disregard of the limitations of human endurance and the return of injured players to the field, all for the glory of Alma Mater and the enjoyment of thousands of holiday seekers in the great stadiums who are cash customers."

In those days flying tackles, clipping, illegal blocking and similar performances



Acme Photos

Richard Plasman crashed his head into a brick wall during a 1938 professional game between the Bears and Packers.

and Fatalities

were still frequent. Today the game has been greatly improved as to safety, but there are still serious accidents. A high school boy died this year because he was learning to block from a coach who permitted him to work without a helmet. Some coaches still permit boys whose legs are injured to hobble off the field; others absolutely insist that every boy with injured legs be carried away on a stretcher. This may look bad to the crowd, but it is better for the boy. Recent improvements in protective padding and headgear have greatly reduced playing hazards.

This Navy runner is brought down under a storm of Clemson players. In such situations, injuries are potentially numerous.

An injured ankle forced this University of Southern California player out of the game with Notre Dame.

A compound fracture of the left leg—and Holy Cross loses a player for the rest of the season.

Foul Play Accounts for Many Injuries

The illegal use of defensive hands is demonstrated by two New York Giant linemen, Widseth and Hein.

Legal and good use of defensive hands as shown here will keep an opponent far away from the body.

This is an illegal shoulder block. Note how blocker has clutched the leg of his opponent.

This is a legal shoulder block and should not cause any injury to either player.

Defensive ball carrying does not permit this left hook to the chin, as demonstrated by Leemans and Strong.

This "stiff-arm" technic is the approved method for warding off would-be tacklers when carrying the ball.

Ramming an elbow in his opponent's face is one version of illegal blocking by linemen on pass defense.

This stationary shoulder block on pass defense is legal, noninjurious and highly effective, Giant linemen say.

The responsibility for safety of the athletes rests not only on the coaches who are still the big-business men of football but also, and even more significantly, on the officials. A vigilant official may slow up the game; but if by so doing he saves the life and health of a player, he is a far better official than the one who is primarily concerned with giving the crowd a good show.

Unbidden Guests

By L. W. BRYCE

BACK in the days before any animal on earth had a backbone, an enterprising worm made a great discovery. He crawled into the stomach cavity of a prehistoric mussel and let the luckless gastropod hustle food for both of them. Inside the mussel he also found safety from the multitude of enemies that harassed him on every side. Progeny of this resourceful worm learned to infest reptiles and mammals when they appeared on the scene. And on that fateful day when an apelike creature stepped across the line and became a man, he brought with him an intestine full of worms. Ever since, intestinal parasites have been a hygienic and economic worry to mankind.

Intestinal parasites to your doctor and to public health authorities are a real problem. In the Southern states, a whole section of the population has been rendered physically and financially destitute by one parasite, the hookworm. These victims have been graphically portrayed by the author of "Tobacco Road." It is true that here the usual victims of worms are children, country folk and inmates of poorly managed institutions. But you who live in cities need not feel too secure about the matter. In this day of rapid transportation, it is possible to swallow a few worm eggs on a bit of unwashed raw food. Or your automobile may carry you quickly to a beautiful picnic spot that may be infested with parasites. Or you may become host to a few unpaying guests by eating rare beef or a sausage cake that is not cooked in the center.

These guests we carry about with us, eating our food, are interesting little fellows. Their lives follow grooves into which they fit perfectly. To a certain extent they live like their host, in that they feed when he feeds and starve when he starves. But otherwise, they merrily go about their own business, leading their own lives. Slowly and painfully, man has worked out their life histories and uses that knowledge to fight them.

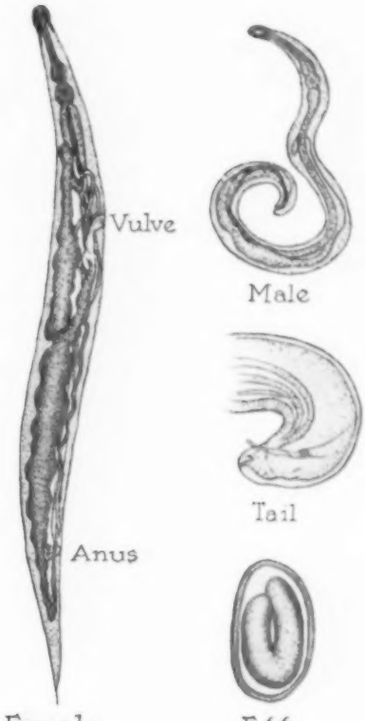
The most common intestinal parasite of man is the eelworm or roundworm, known to your doctor as Ascaris lumbricoides. Wherever you find man, you will find Ascaris enjoying life. He is carefully pampered by the fuzzy-headed hottentot in the steaming jungle and by the frosty Eskimo in the Arctic. Generally speaking, the dirtier the habits of a people, the more common is Ascaris.

The adult roundworm resembles an overgrown angle worm with anemia. It is a long, tapering, writhing thing, grayish-yellow in color. The male is about 6 or 7 inches long, and the female may measure a foot. Normally, Ascaris inhabits the upper part of the small intestine. Ordinarily only five or six roundworms live in one host; but one case is reported in which a child passed over 5,000 of the wigglers.

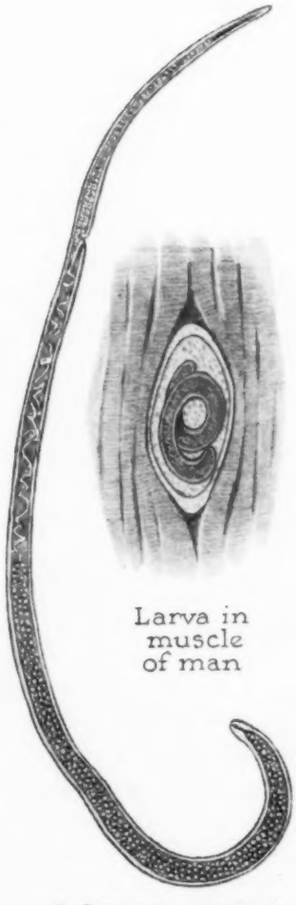
The life of the roundworm is fairly complex. The eggs are laid in great numbers, some say 200,000 a day. They are almost round and are decorated with little knobs and bumps that make them look like microscopic English walnuts. Once outside the host, the eggs are extremely resistant to heat, cold and chemical agents. Inside the shell, the eggs develop into tiny worms or larvae. After a larva has developed, he may lie asleep for months, waiting for some one to adopt him. When he is swallowed by a suitable host, the little fellow breaks out of his shell in the host's small intestine. This is his natural home, where conditions are ideal. There is warmth, darkness, moisture and food.

But no sooner does he find all these things just to his liking than a wanderlust seizes him. So in a spirit of high adventure he fares forth to explore his host. He bores through the velvety lining of the intestine and enters the rushing torrent of the blood stream. Madly the red current sweeps the voyageur along, dashing him against unyielding walls at every twist and turn of the vein. At last, buffeted and bruised he reaches the lungs. Here he leaves the well charted way of the blood vessels and enters the wind swept caverns of the lungs. Now he rambles from chamber to chamber, guided by generations of instinctive knowledge of the way. At last he reaches the windpipe and goes upward into the pharynx. By now the traveler has grown mightily and is tired. He feels the urge to set up housekeeping. So down the esophagus he goes,

EELWORM OR ROUNDWORM
Ascaris lumbricoides

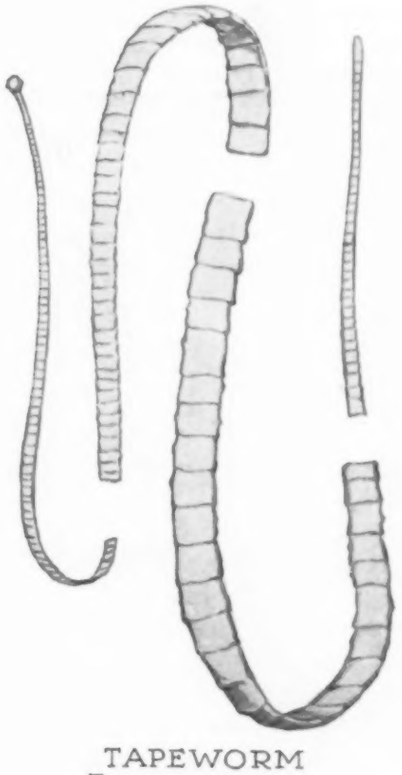


SEATWORM OR PINWORM
Oxyuris vermicularis



ROUNDWORM
Trichinella spiralis

HOOKWORM
Uncinaria americana



TAPEWORM
Taenia saginata

through the stomach and into the place whence he came, the small intestine. Here he spends the rest of his natural life, feeding, reproducing and engaging in occasional forays into the stomach, bile passages and pancreas.

As long as he stays where he belongs, the roundworm does not bother his host very much, except for a few gastrointestinal upsets, some weakness and general malaise. But his migrations bring about dramatic consequences. At times Ascaris feels the need of a little air and will wander up into the throat of a child and strangle it. Sometimes he will crawl into the bile passages, causing all the symptoms of gallbladder disease. Great numbers of roundworms have been known to twine about each other in loving embrace, forming a ball that obstructs the lumen of the intestine. Now and then an amazingly rash worm will invade the appendix, loosing his life when that indignant organ is trimmed off by a surgeon.

Another common worm of the temperate zone is the seatworm or pinworm. These parasites that carry a name much longer than themselves, Oxyuris vermicularis, are as widely distributed as Ascaris. In fact, they seem to like living together as neighbors. Pinworms usually dwell about the cecum, which is at the beginning of the large intestine. Here crowds of them will gather about the base of the appendix for a frolic and may cause appendicitis. The male pinworm is a little chap about an eighth of an inch long, the female being just a little longer.

The tiny female is not satisfied, like other worms, to deposit her load in the intestine. But in secret, and by night, she crawls out of the anus to lay her eggs on the surrounding skin of her host. To help her get about, the sharp pin at the end of her tail is used, sticking the skin at every step. These pricks cause an intolerable itching, that makes the host an extremely uncomfortable individual.

The eggs themselves are microscopic bodies, being oval with one side flattened. At the time of laying, there is a well formed embryo inside each egg, and it is immediately infective. For this reason, the host may continually reinfect himself by carrying eggs on the scratching fingers to the mouth. Once swallowed by the host, the larva leaves the shell in the intestine and is ready to set up housekeeping.

In America the most devastating intestinal parasite is the hookworm, Uncinaria americana. Its old name Necator americanus, meaning the American Killer, is more appropriate. In spite of its name, the hookworm is a native of Africa. It was probably brought to this country in the course of the slave trade and is one of the prices the South has paid for owning Negro slaves. In size the hookworm is negligible. The male averages five eights of an inch long and the female, being deadlier than the male, is about seven eighths of an inch.

The potency of the female may be judged from the statement of one authority that a person with a moderate infestation will harbor about 200 worms. Such a patient will pass 1,700,000 eggs a day. This works out to better than 8,000 eggs per day per worm. And the calculation does not take into consideration the ratio between male and female worms.

After the microscopic hookworm eggs are passed from the body of the host, they develop into young worms. Then for four or five days these little worms are rather active while feeding and growing. This period is a crucial one for the welfare of the budding hookworm. If there comes a dry spell or if it turns cold, the "jig is up" for that litter of worms. They must have moisture and heat. The wise old Mother hookworm knows all about these dangers, so she lays that enormous number of eggs and hopes that some of them get through.

But when they pass this trial period, they are safe. The little fellows who survive become covered with a sort of cocoon and become inactive. All covered up in this oiled silk case they can pass through almost anything without any great damage to themselves. The tiny worms can stay this way for months, if necessary. But at last comes the day. A barefoot boy comes trudging along, enjoying the cool feel of the mud oozing up between his toes. He does not know it, but in the mud is a little nest of hookworm cocoons. Four minutes after they come in contact with the bare skin, the last one of them has bored through the victim's epidermis. Next morning the places where the parasites entered are red, and they itch. The boy says he has the "ground itch" and lets it go at that.

Once inside the body, the larval worms follow the course of their cousins the Ascaris. They finally set up housekeeping in the small intestine. Here dozens and hundreds of the little vampires fasten themselves to the intestinal walls by their hooks and begin to drain their host of his life's blood. In from six to eight weeks after they have entered the body, they are fully grown and begin to mate and in the natural course of events lay eggs.

The symptoms of hookworm disease are really those of almost any secondary anemia. These symptoms are masterfully summed up in the classic yarn of *(Continued on page 72)*

AUSTRALIA

Land of Sun and Surf

By NOEL M. GUTTERIDGE

THERE are certain things in this world that through circumstances and long association of ideas have become irrevocably linked. The English have contributed tea and crumpets, the Scotch, golf and plaids and the Americans, film stars and glamour. Australia has her sunshine and her surf, and out of them has grown her national sport—surfing.

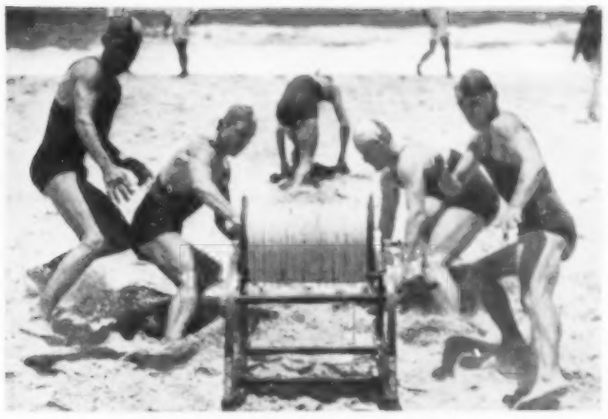
Indeed, it is more than a national sport. It is Australia's number 1 health insurance policy, and for thirty years the number of its devotees has been steadily increasing. Today, surfing is an accepted part of the life of almost every Australian. It is the sport for all ages, all sizes, all classes, and it pays the same dividends of improved health and strength to rich and poor alike.

Almost the whole year round, but particularly at week ends, the surfing beaches are a scene of gaiety and color. Whether you are one of the few who venture out to the first line of breakers or one of those who prefer the safer, if less thrilling "shoots" closer to shore, it makes no difference. The same spirit of enjoyment and *camaraderie* is everywhere.

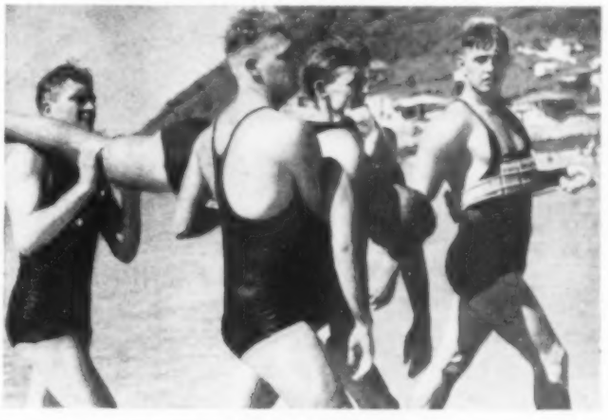
Out of the Australian love of surfing has grown a service that cannot be compared with anything else in the world. Sharks, cramp, undertow, channels and cross currents are the enemies of the surfer, and occasionally they bring tragedy in their train. If it were not for the institution of a series of voluntary "life saving" clubs, that grim figure would stalk along the sunlit beaches far more often. At Christmas and Easter when the throng on the beaches is at its height, dozens and even hundreds of lives are saved by the young men who give up their holidays to patrol the beaches and to make them safe for surfers. The lookout tower on the sands is a familiar sight, and from it the life saver keeps a strict watch for sharks or for a surfer in difficulties.

As a test for reflex actions the warning clang of the shark bell is unique. At one moment the sea is a mass of cheerful surfers. At the next, it is completely deserted. The explanation is not magic, but merely the fear which the very thought of that ominous, triangular black fin engenders!

For efficiency and speed and perfect synchronization, one could not find a better example than an Australian life-saving team "going into action." From the moment a surfer raises his arm in the signal for help, not a second is lost. The reel is rushed to the water's edge. While one man attends to the wheel, four others take up their positions on the line, and the beltman goes to the rescue. Often it seems impossible that he will be able to stand the battering of the mighty waves, much less save another life from them. But time after time, he succeeds. Rarely, however, is the work of the life savers finished when the patient is brought to shore. In many cases treatment for shock is necessary, and sometimes resuscitation methods have to be employed. The life savers will work over their patient for hours, if there is even the slightest hope of saving a life. It is the modern version of "raising the dead."



The reel is attached to the man going into the surf.



He brings him back alive and starts resuscitation.

The advantages of the life saving clubs to surfers are obvious. They spell never-failing vigilance and ready help in case of need. But what, you may wonder, do these young men get out of it? They sacrifice their time and their money and risk their lives—for what?

One glance at a life savers' parade on an Australian beach would supply the answer. Their strong, well-proportioned bodies, rippling muscles and tanned skin speak eloquently of perfect health. And that is their reward. The sun, the surf and their training have combined to place them on a physical plane where they stand alone.

H. D. Barlow

Is Your Child Hard of Hearing?

By HARRIET A. HEYBURN

MUCH PUBLICITY has recently been centered on the great need for improvement in educational methods. The average child, the brilliant child, the slow child and the handicapped child have each been the focus of attention. Noteworthy progress is being made in the education of the physically handicapped child. But there is one who has not received his just due. He is the hard of hearing child.

The hard of hearing child is not the deaf child. *Hard of hearing* means *deafened,* and this condition must be clearly distinguished from the state of being *deaf.* The problems of the hard of hearing individual and those of the deaf person are similar but by no means identical. A deaf person is one who is born without hearing or who loses his hearing at such an early age that he soon has no memory of sound. The condition of the hard of hearing person ranges from a slight to a total loss of hearing, and he has a definite memory of sound. The condition is often progressive, and in its early stages it is so insidious that a large percentage of hearing may be lost before it becomes noticeable.

Medical science recognizes the importance of early detection of deviations from the normal in a child's condition. Proper medical attention during the preschool years reveals any defects in the hearing apparatus. As soon as such a condition is known the thoughtful parents will recognize the need for immediate action. The family doctor will study the case and give what help he can. However, most doctors recommend consulting a specialist whenever possible. It is most important that the parents know the exact condition of their child's hearing, and this knowledge is easily ascertained by a competent specialist.

If medical treatment will alleviate the condition, this should be given as soon as possible. Unfortunately, there is no known cure for some types of deafness. The progressive type is the most difficult to cope with. Intelligent parents will encourage frankness on the part of the doctors. They will accept the verdict if the doctors say they can do nothing to relieve it.

There is an accompanying pattern of emotional and physical symptoms. Even a slight defect in hearing has an effect on the individual, and what seems today to be only a slight loss may tomorrow be a serious handicap. But neither the parents nor the doctors will take the defeatist attitude. They will adopt the mental hygiene point of view.

This point of view calls for constructive planning of the child's education, based on a thorough understanding of his handicap. His education will, of course, include physical education. The fact that medical treatment will not restore the receding hearing does not mean

that there is no need for medical care in regard to his handicap. His eyes must receive careful attention, since he, more than most people, will need good eyesight. Early in life he should acquire the habit of having plenty of rest each twenty-four hours. General health habits are extremely important for the hard of hearing child. In some hard of hearing persons the bodily balance is affected. This condition can be recognized when the child is young, and it must not be ignored or treated lightly. While the child is growing, he may appear to be clumsy. He may lose his balance and fall for no apparent reason. This may easily have an adverse effect on his emotional development, since it will cause him to feel unsure of himself. Certain types of physical training may prove valuable for the child with this trouble. When he is mature he may have to avoid work which requires constant standing, as this usually aggravates the vertigo or nausea which accompanies the condition. Ignorance of the physical condition causing this vertigo often leads to needless worries and fears.

The ultimate objective of education is the ability to make adequate adjustment to life. This adjustment is based on a certain physical and emotional balance. Parents of the hard of hearing child will work to keep him as "normal" as possible. Certain habits are essential to the attainment of this aim. Basic among these are the habits which will foster the natural growth of the ability to read lips. The hard of hearing child should be encouraged to watch the speaker's face and to listen attentively to what is said to him. The habit of concentration, here as elsewhere, is essential. Many adults find it difficult to learn to read lips because they do not have these habits.

Correct speech habits will have a deep and lasting influence on the hard of hearing child. His own speech will pattern itself after that of his parents or other adults he hears frequently. Good speech begins with a good voice. Good speech is slow, with careful enunciation, but it is not exaggerated. Incorrect pronunciation and so-called "baby talk" are a part of the speech of very small children. But adults must not encourage the child to continue these habits after he is able to speak correctly. His auditory, and hence his visual, patterns of speech should be right so that as his hearing loss becomes more acute his memory of sound-vocabulary will be as accurate as possible.

The talkative person usually does not take time to use good speech. Constant conversation is never a desirable habit, and it is a most pernicious one in its effect on the child, whether he is hard of hearing or not. It encourages inattentiveness in the child, if he does not care to listen. Besides this, it serves to make him dependent on constant talk and on other persons—two habits which will be a great detriment to him as a hard of hearing adult.

We know that the play habits of children have an enormous influence on their work habits and on the way they spend leisure time as they mature. The love of reading and the enjoyment of hobbies which can be persued alone should be encouraged. Every one needs these habits, and the hard of hearing person needs them most of all, because he spends more time alone than the average person. But do not allow self sufficiency to become overdeveloped. The hard of hearing child should have interests, skills and hobbies through which he can participate in the activities of other persons.

These matters determine whether or not the hard of hearing person is socially acceptable. Chief among these attributes is a philosophic attitude toward his handicap, and whether or not he will have this outlook depends largely on the philosophy with which he grows up. Tolerance toward the failings of other people, and the ability to see things in proportion to their true significance are a part of this philosophic attitude. The child must not indulge in self-pity or excuse his failings on grounds of his handicap. Mental hygiene excludes this attitude and replaces it with a straightforward, honest point of view. The hard of hearing person should be able to enjoy being with a group of people without having to be told all that is said. His childish habit of watching people and studying their faces may well be carried over into maturity, so that he can truly enjoy people. Hearing persons will in turn enjoy his company if they feel spontaneous in his presence.

As the child matures, the question of an occupation arises. Even though his parents are able to support him, it is desirable that he should be as independent as possible in adulthood. Economic security is achieved by too few persons today, so that the hard of hearing person's lot is not easy. The very nature of his handicap excludes him from many fields of work. Unless there is absolute proof that his condition is not progressive, it is highly important that he choose work which can be pursued independently of his hearing. Failure is a *(Continued on page 85)*

New types of oxygen masks are tested in this altitude chamber in ground laboratories. High pressures can be simulated and accurate results obtained.

What the Flight Surgeon Does

RAPID developments in high speed air maneuvers and high altitude flying have forced to light new problems. What of the pilots who fly these planes, and what of those who ride as passengers in the air—is there any limit to what they can stand? Can the human body and mind tolerate the speeds and maneuvers of which the constantly improved airplanes are capable? Those are but a few of the questions that the specialty of aviation medicine must constantly attempt to determine, and as a result even the design of the ships is frequently based on the recommendations of the flight surgeon, which is the title given to all physicians who specialize in this field. Airplanes now being developed to fly the stratosphere will have a supercharged cabin, which will permit the occupants to be as comfortable above 20,000 feet altitude as they would be at sea level. The specifications of these ships are developed by the engineers from information supplied by flight surgeons.

As altitude is increased, the density of the air is decreased, which means that less oxygen is therefore available to our lungs. We well know that the body cells can function only so long as they receive sufficient oxygen from the lungs, and when the oxygen supply is reduced, unconsciousness results. With gradual increase of altitude, unconsciousness sets in so slowly as to be unnoticeable; first there is a slowing or dulling of the mental activity, then a definite drowsiness, and finally fainting occurs. This advances just as unnoticeably as the sleep which comes when we relax in a big comfortable chair. Flight surgeons have been much concerned with this problem and have done considerable research in an effort to determine the maximum altitude at which a pilot may safely manage a ship without using additional oxygen. Because this apparently differs with individuals, no set limit can be established for every one. However, on the advice of their flight surgeon, one of the country's major airlines has established a rule that all their pilots must take oxygen when a height of 10,000 feet is attained. Not only has it been necessary to discover the conditions that necessitate the use of oxygen, but it has been necessary to devise suitable equipment for the administration of the oxygen.

In the past, oxygen has been used only by military pilots and in special purpose flying at these rare times when high altitude flights were attempted. As a result, little attention was given to the problem of suitable apparatus. Heretofore, the device consisted of a simple pipestem that was connected to a rubber tube leading to the oxygen supply tank. But this method was unsatisfactory, as much of the oxygen leaked out of the mouth without ever entering the lungs. Moreover, it was impossible to hold the pipestem between the teeth and speak on the radio, as it was frequently necessary to do. Pilots complained that the continuous flow of the oxygen dried out the mouth and was therefore uncomfortable; so they declined to use it except under force. Far more important was the constant danger that the tube would accidentally slip from the mouth and be unnoticed, in which case the pilot would faint, only to regain consciousness several thousand feet nearer the ground, probably with the ship in a dive or a spin. Recently, an oxygen mask has been developed which resembles a football player's nose guard; it has been tested in flight, both for crew and for passengers, with allegedly satisfactory results. Modifications of this mask by other flight surgeons may be expected to make their appearance almost any day. This type of mask is said to be free from the objections raised to the pipestem method.

"Is there a limit to the speed at which it is physically safe to travel?" that is a question which is becoming increasingly important with each new improvement in aircraft design. The rate of change of speed, or acceleration, has been found to be the significant factor, coming into play when making turns and in "pulling out of dives"; fortunately this problem has been of concern only to test pilots and military pilots and not to the general flying public. When making turns and on the "pull out" there is a centrifugal force created which drives the blood from the brain and upper parts of the body into the abdominal organs and lower parts of the body, causing the pilot to faint or "black out." If the turns or pull outs are gradual or are done at slow enough speeds, the loss of consciousness may not occur or may be only partial, but if not carefully done, the results may be disastrous. In attempting to overcome this blacking out, flight surgeons have learned that by wearing a tight, wide belt, by "setting the muscles" and by having the pilot scream as loudly as possible, some of the blood may be prevented from leaving the brain, and he will thus retain consciousness. As an aid, a wide rubber belt similar to an automobile inner tube has been developed which may be inflated just when needed. The flight surgeons are now suggesting to the engineers that if they increase speeds much more, it may be necessary to design the cockpit so the pilot may lie prone rather than sit erect in order to prevent his fainting; in the prone position the centrifugal force will have considerably less effect on the body.

The airlines have been much concerned as to whether it is dangerous for passengers with heart disease to fly. Most flight surgeons are now agreed that the patient with heart disease may travel just as safely by air as by rail or other mode; in fact some say he is even safer. Naturally, no one with an imperfect heart would be permitted to pilot an airplane.

As in every expanding field, new problems are encountered more rapidly than old ones are solved, and many of the problems of air travel fall back to the medical men who are trained in their fundamentals.

By V. EUGENE FRAZIER

In order to be certain that the men who pilot aircraft are free from physical defects which might conceivably affect their flying, the government has enacted laws which require all pilots to take a rigid physical examination every year before their license can be renewed in addition to a semiannual examination. This law pertains to private, military and airline pilots, the only difference being that the standards for private flyers are less rigid than for the other groups. Pilots who hold commissions in the Army and Navy Reserve Corps receive four physical examinations a year, two more than required by law. The examinations are done at various points in the country by regular physicians who have taken special graduate training in this line and who have been appointed as flight surgeons by the nonpolitical medical body of the Civil Aeronautics Authority, by the Army or by the Navy. When the examination is completed, the record is sent to Washington, where it is checked over and placed on file.

Some of the larger airlines maintain medical departments which examine the company pilots each month in addition to the independent government examinations. These departments also carry on research. The Army maintains a School of Aviation Medicine at Randolph Field, Texas, which is believed to be the only school of its kind in the world. It is here that all flight surgeons receive their special training. Because perfect vision and judgment are required to make a good landing, because the pilot must constantly be alert for collisions with other aircraft or ground obstructions, because he must be able to recognize the terrain below, and because he has many instruments to read and maps to follow, his eyes are examined with utmost care. For similar reasons the ears, the heart and the blood vessels are examined in great detail. Because the pilot must exert flawless judgment at all times, he is carefully examined and constantly watched for the slightest sign of nervous or mental disease, since the strain of flying is extremely fatiguing on the nervous system. All airlines have rigid rules against the use of alcohol by their pilots, and any flight surgeon would be quick to "ground" the man that arrived at the field showing evidence of recent indulgence or even of insufficient sleep.

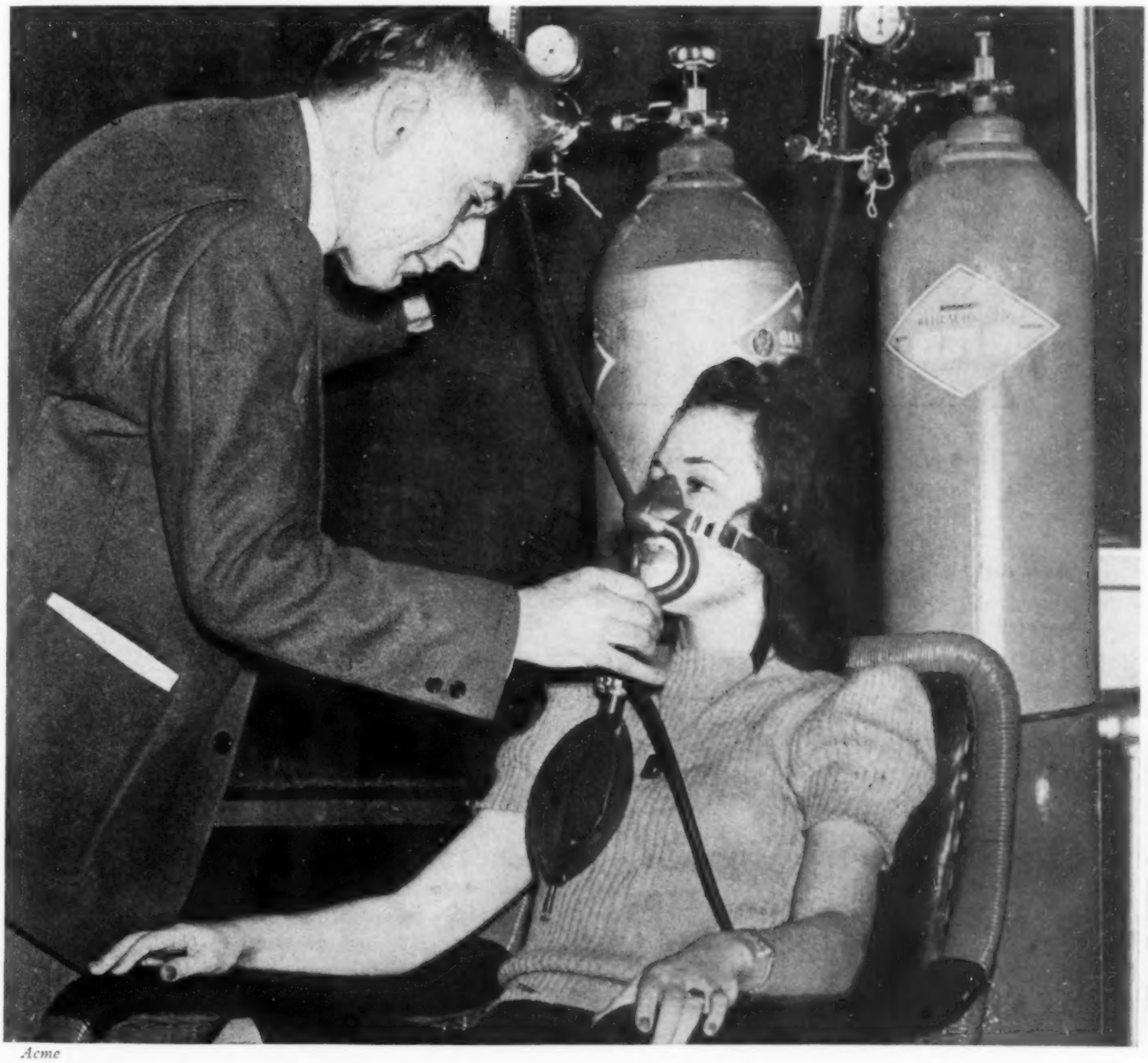
That flying is a young man's game, there has never been much doubt. But an airline regards its pilots as one of its principal assets and cannot afford to retire them for younger men until it is absolutely necessary. For one thing, there is no way for a pilot to make a living flying a commercial airplane after his license is canceled. The Army has recently attempted to solve this problem by the creation of a classification of "command pilots," who will direct the flight but leave the controls to the younger pilots. Flight surgeons are doing extensive research in an effort to develop tests and standards by which it will be possible to determine accurately when a flyer should relinquish his post. Nervous fatigue is common, and as it develops, the probability of accidents also increases. As yet there are no really satisfactory methods of detecting the onset of this condition; but the Harvard University Fatigue Laboratory is interested in this question, and perhaps in time regulations will be created which will limit the number of hours for each day, month and year that one is allowed to fly.

Rapid change of altitude, such as occurs in diving, puts considerable strain on the ear drums, due to the rapid change in barometric pressure. In military and naval work where the dive bombing technic is sometimes used, pilots have actually been known to break their ear drums. To combat this condition all flyers have learned to yell as loudly as possible while diving. This act forces open the tiny eustachian tubes that connect the back of the nose with the inside of the ear and thereby allows the air pressure on the outside and the inside of the ear to equalize. So far this is the most satisfactory method known.

The government is conducting research in several places in the field of aviation medicine. The School of Aviation Medicine at Randolph Field is the main center of study, but the Army Physiological Research Laboratory, located at the air corps proving station, Wright Field, Dayton, Ohio, is also doing extensive investigation. The Navy has its own research set up, and the Civil Aeronautics Authority maintains a Medical Science Station at Kansas City, Mo., which is doing research on problems that relate to airline pilots. Some of the airlines have their own medical research departments and others are expected to add departments as soon as possible. Just as in every expanding field, new problems are encountered more rapidly than old ones are solved, so that there is a constantly growing need for more funds, more laboratories and more workers in this field.

What has all this study accomplished? At the beginning of the World War, there were no flight surgeons and no special physical examinations for those who applied for air

corps duty. Nothing was known of the problems of aerial navigation. As a result, about 80 per cent of the crashes were attributable to "pilot failure." At the close of the war, pilot failure had been reduced to about 5 per cent, just as a result of what had been learned during the course of the war. Today, pilot failure is virtually unknown, which accounts for the airlines' present safety records. During the last year, the Braniff Airways, Inc., was presented with a citation for having flown 47,956,588 passenger miles without a single passenger fatality; this was during the years 1932 through 1938. This is equal to 185 trips around the equator or 13,291 days of continuous flying or 133,212 average trips. Undoubtedly, other airlines and Army and Navy organizations can present equally enviable records. The seventeen scheduled airlines operating within the United States have flown 575 million passenger miles since their last accident which involved death or serious injury. This is more than equivalent to transporting the entire population of the nation's capital up to Boston and return. Accidents are decreasing both in frequency and in consequence every year, while hours of flying are increasing considerably.



Acme

Apparatus for furnishing auxiliary oxygen at high altitudes is being demonstrated. As height is gained, the amount of oxygen in the air decreases, so in order for the body to function, additional oxygen must be provided. Unconsciousness develops if oxygen fails.

First Aid Is TOO LATE!

By RICHARD ADAMS LEARNED

"WHAT," you say, "first aid is too late? Why this man must be crazy." No, "I am not mad, most noble Festus," and there is no one more keenly aware than I of the beneficial results which follow the intelligent application of first aid. I know how proper attention to a slight wound may prevent infection and subsequent dire results, for I know how easy it is for a half inch scratch to develop into a 6 foot grave. Still, when you have said all there is to say about first aid, and that would take volumes, there is one thing that may make unnecessary all those volumes, all the bandages and splints, tourniquets and bottles of iodine, and that one thing is care. Indeed, the results of care are infinitely more pleasing than those of carelessness.

In a recent article in HYGEIA I note some of the National Safety Council's totals of accidents for a year. These totals show that unless we as a people exercise greater care in the future than we have in the past, one out of every twelve of us will annually be either killed or permanently or temporarily disabled. Now take this unflattering unction to your soul, and try to realize what care may mean to you.

That the ounce of prevention is worth the pound of cure is an adage so old that it is worn almost threadbare, but it is as true today as when it was first said. In my childhood I was told a story intended to impress on my youthful mind the fact that the neglect of this ounce may lead to serious complications, vastly greater than would seem possible as the result of the initial carelessness. The story ran: For the want of a nail a shoe was lost; for the want of a shoe a horse was lost, for the want of a horse a messenger was lost, for the want of a messenger a kingdom was lost. Tell your children this story. The mental picture of these disasters and their culmination, showing the result of such a trivial thing as the loss of a horseshoe nail, will do much toward curbing their youthful carelessness.

Care may not only avert any necessity for first aid but may also prevent great disasters, accompanied by loss of life and property. We were horrified by the results of the floods a few years ago in California, but here care in learning about local conditions would have saved many lives and much property. To make this point clear I shall quote from a letter received from a man now living in Pasadena:

> True, several people were killed and a number of houses were destroyed, but there is a real reason for it, mainly stupidity. People who come from the lands of snow and frost to the comparative loveliness of California are immediately entranced by the inherent beauty of the country, beauty that can better be viewed from a hilltop. So they at once build themselves a house upon the edge of a canyon and perch themselves precariously upon the brink of an abyss. If they had stopped to think they could not have failed to realize that it was water which had created the canyon in the beginning.
>
> So as soon as a heavy rainfall takes place, . . . the natural reaction to the waters is a little more erosion, then banks topple and with them go the houses.

It has been aptly said that fire is a good servant but a poor master. Far too often, destructive fires, with their attendant waste of human lives, are caused by criminal carelessness. Some one tosses away a lighted cigaret, and thousands of acres of forest land are burned, lives are lost, both human and animal, and a smiling countryside is turned into a blackened waste. The Encyclopaedia Brittanica says: "At first and perhaps for many generations, the users of fire probably comprised only a small group of unusually intelligent, competent and progressive people." If this is true, we have traveled many miles since those times, as is shown when we look over descriptions of the causes of fires. It could hardly have been an "unusually intelligent" man who put a can of gasoline on the stove to warm it, nor could he who brought a keg of blasting powder into the house to dry it be called "competent and progressive."

Regarded in the light of these fantastic happenings, it would seem that there may have been much truth in the old jingle about Mary McGuire, which runs,

> A young lady named Mary McGuire
> Had some trouble in lighting the fire,
> The wood being green
> She used kerosene.
> She has gone where the fuel is drier.

Perhaps the author intended this more as a warning and less as a joke, but in either case it carries its moral.

H. Armstrong Roberts

Exercise a little pre-accident care yourself: Go to your medicine cabinet now, and see that all the bottles containing poison have bright poison labels on them; also, stick pins in the corks. Then in the dark, your sense of touch will indicate which bottles have harmful contents.

That care can materially reduce the number of accidents is shown conclusively by the reduction in the number of children killed in our streets. This is due in large part to the intensive safety education program which is being carried on in the schools. Under this program the children are not only instructed in what constitutes safe conduct in the street, but school patrols are formed among the students which watch over the safety of other children and sometimes act as fact finding bodies. *Safety Education* reported some interesting facts about the school patrol of Eveleth, Minn. Sent out to report on the causes of automobile accidents they found that from 2 to 4 o'clock, in the afternoon and from 7 to 8 o'clock in the evening on a certain Saturday, 76 vehicles failed to stop at arterial highways, 143 failed to signal for left turns, 36 failed to get into the proper lane to make their turn, 456 approached intersections at too high speed, 10 passed too close to corners, and 13 passed other vehicles at intersections.

According to *Safety Education* the campaign in Massachusetts has reduced the number of children killed in the streets by motor vehicles from 227 in 1924 to 87 in 1936. During this period the number of adults killed rose from 223 to 376. Perhaps this rise in the number of adults killed is one reason why the Massachusetts State Registrar of Motor Vehicles wrote to school superintendents, requesting all teachers to tell the children to go home and explain to their parents what they should do to avoid accidents when walking on country roads. Also that in the cities they should not cross the streets except at the proper crossings and should always look *(Continued on page 95)*

By HUBERT A. ROYSTER

How many stitches, Doctor?

OF LATE YEARS newspaper accounts of accidents and injuries seem to be concerned largely with the number of stitches introduced to close the wounds. Reporters apparently vie with one another in "scooping" the highest scores. Headline writers stress the stitch count as the leading feature of their stories. Garnered over a considerable period of time, the clippings indicate with few exceptions that the "numbers" game constitutes the chief interest. The minimum average number which is deemed newsworthy is seventeen stitches. Below that number no interest was manifest; above that, the score increased until the maximum shown in the clippings came to 101 stitches.

The most recent report, which caps the climax, is the following, seen in the Raleigh (N. C.) *Times:*

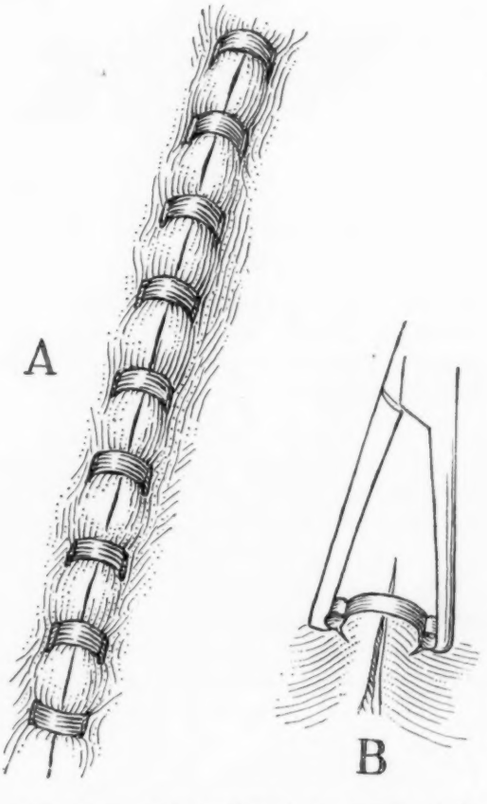
602 STITCHES REQUIRED TO PATCH KNIFE VICTIM

Doctors literally had to sew Sam W. Lee together again after an altercation he had with Eugene Ellis on the Rock Quarry Road on June 18. Lee astounded City Court Judge Paul C. West, when he testified the doctors took 602 stitches in patching up wounds Ellis allegedly inflicted. Ellis was on trial for assault with a deadly weapon with intent to kill. "That's the most sewing I ever heard of on a human being," Judge West commented.

This case, requiring 602 stitches, is submitted herewith as the all-time high mark in surgical arithmetic, a challenge to those who have the ambition to equal or surpass it. These questions naturally arise: Who keeps tab on the stitches? Does the victim tally them while undergoing his ordeal? Does the doctor check them during the process or count them afterward? In any event, time and trouble are multiplied. After all, what difference does it make how many stitches are used, provided the wounds are treated and sewed properly?

The number of stitches required to close a wound depends on circumstances in the individual case: first, on the kind of wound, its extent, depth and location; second, on the type of stitch, its material, the manner of insertion and somewhat on the one who does the stitching. There are many wounds that need no such artificial aid in closing; there are some that should not be closed under any circumstances; there are others that should not only be left open but enlarged and exposed to the air. 'Suture [stitch] material may be composed of catgut, silk, linen, silkworm gut or horsehair.

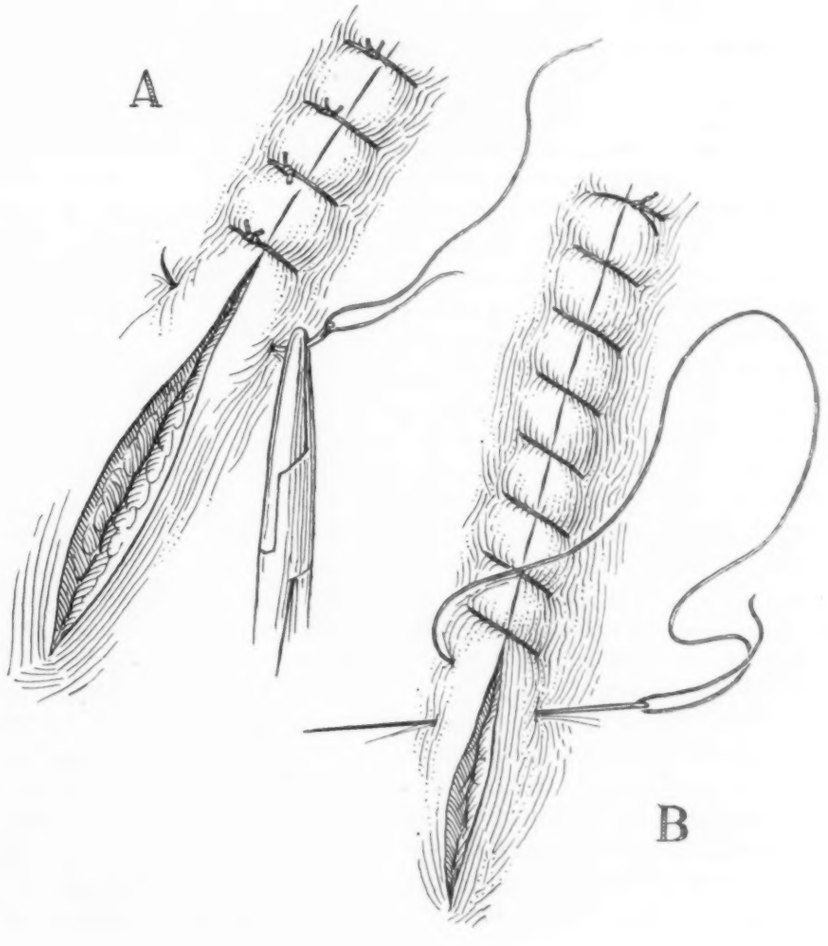
Broadly speaking there are two methods of stitching: interrupted and continuous. Interrupted sutures are inserted separately, tied and the ends cut, each being an individual stitch. These are the ones so eloquently described in published reports. Their number depends, of course, on the length and breadth of the wound and the distances allotted between the stitches. Manifestly these factors will vary in the judgment of the one who places them. Some doctors will space the stitches a half or even a quarter of an inch apart; while others may secure equally good closures by inserting the stitches an inch or an inch and a half from each other. Thus, a wide degree of difference may obtain in the number of stitches



Tiny metal clips may be used to close a wound. *A* shows how they look when in place, and *B* illustrates the method of using the forceps when applying one of them.

in any given wound, even the smallest. In the continuous method of stitching, one long suture [stitch] is used, introduced in an over-and-over fashion from one end of the wound to the other and secured at both ends or looped over the dressing and the ends left free. This method calls for only a single suture, but at proper intervals the needle is inserted through the skin, or just underneath its borders in regions where an unsightly scar is to be avoided, and the edges of the wound are brought together smoothly and evenly. Continuous stitching is indicated especially in superficial, shallow wounds, and is a great time saver. But it does not furnish the inquiring reporter a chance to headline the number of stitches. Generally, the type of suture which most safely and surely closes the wound should be employed. There are occasions when the interrupted [individual] stitch must be used, chiefly if the wound tends to fall apart; at other times, the continuous or running suture can be advantageously utilized, notably when separation is not marked. In the latter method, the accounting system is out. The application of adhesive plaster alone will suffice to bring together the sides of certain wounds without the introduction of stitches. If narrow strips of plaster are placed so as to bring the edges together neatly and then larger pieces are laid over in criss-cross form, the wound will heal as well as if stitched and in most cases with the minimum of scarring. Sterilized metal clips, ready for use, quickly and easily inserted across the lips of a wound, are of great help in emergencies.

The truth is, the number of stitches bears no direct relation to the severity of the wound. Rather, the severity might be in inverse proportion to the number of stitches required; for the most dangerous wounds may be those which cannot or should not be sutured, not to speak of some that demand wider opening instead of closing. The Negro man with a razor is not as destructive as the Italian with his stiletto. The former cuts with wide slashes, and, unless he reaches a major blood vessel, rarely kills but commonly marks his victim with patterns on various portions of his anatomy. The stiletto stabs straight for some deep-seated part, carrying in deadly germs and adding infection to injury. The knife and the razor make long, superficial, multiple wounds, as a rule, and seldom cause immediate death unless a particular area is intentionally attacked. The more carving, the



The type of suture (stitch) which most safely and securely closes the wound should be employed. There are occasions when the interrupted, or individual, stitch must be used (A); at other times, the continuous or running suture is the best (B).

less penetration. Even in cut-throat attempts, the great vessels of the neck often escape injury, because as the head is turned, the knife tends to jump from muscle to windpipe, missing the deeper parts. When the jugular vein is spoken of by the laity, reference is made most often to the external jugular, which runs just under the skin from the angle of the jaw to the middle of the collar bone, and not to the internal jugular vein, deeply placed in a sheath with the carotid artery. Severing the former need not necessarily be fatal, but cutting the latter would shortly terminate life, especially since the artery almost certainly would be wounded. In none of these accidents is there much concern over the insertion or number of stitches taken in the skin; it is far more important that the large bleeding vessels be tied off.

Wounds may be classified into six types, as follows: incised, contused, lacerated, punctured, gunshot and poisoned.

An incised wound is longer than it is deep. It is generally produced by an extremely sharp implement, as a razor. The best example is the incision made by the surgeon when he cuts through the skin to gain access to the area to be operated on. A contused wound is a bruised wound, caused by a dull but heavy object which may not, but usually does, break the skin. A lacerated wound is a torn wound, in which contusion plays a part. Tearing of the perineum in childbirth, a swipe from a tiger's claw and the crushing of a leg by the wheels of a railroad train are examples. Contused and lacerated wounds are frequently associated. A punctured wound is deeper than it is long, in contrast to an incised wound, and is made by a sharp instrument, such as a dagger, the homely ice pick or the nail which pierces the foot. Gunshot wounds are considered here as including all wounds by missiles from any kind of fire-arms—shotgun, pistol, rifle. They may resemble punctured wounds, as well as contused and lacerated wounds. Poisoned wounds too are punctured, though they are rare, being exemplified long ago in the poisoned arrowheads of Indians and more recently in the poisoned bullets said to have been used in modern warfare.

It will be observed that the first three types can be appropriately grouped, while the last three naturally fall together. Of the two groups, those forming the second, no matter what the region involved, are of the punctured type and are apt to be much more dangerous to life than the first group, on account of infection. Through such wounds, certain microbes, especially those which thrive and multiply when deprived of air, are driven deep into the tissues, where they will go on to produce serious consequences and possible death, unless released and subjected to the atmosphere or to substances which give off oxygen. These are the wounds which are to be opened widely and left open. They are not to be stitched.

An incident may be recorded which explains the stitch complex of the laity, as reflected in the newspapers. The treatment which was adopted in this case no doubt disappointed a family and its friends and prevented another write-up of suture counting. A girl of 10 years, who had sustained a 6 inch incised wound of her left cheek, was brought to the doctor's office by some neighbors, shortly after the injury was inflicted. The wound gaped but little, and after thorough cleansing, it was neatly closed by a subcuticular (under the skin) continuous suture of catgut about 10 inches long. This method was used because it leaves practically no scar. By the time the dressing had been firmly applied, the child's mother, who had been away from home at the time of the accident, arrived on the scene. She threw up her hands in fright, and her first question was, "Oh, doctor, how many stitches did you put in?"

The answer was, "One."

"But they told me the cut was 6 inches long!"

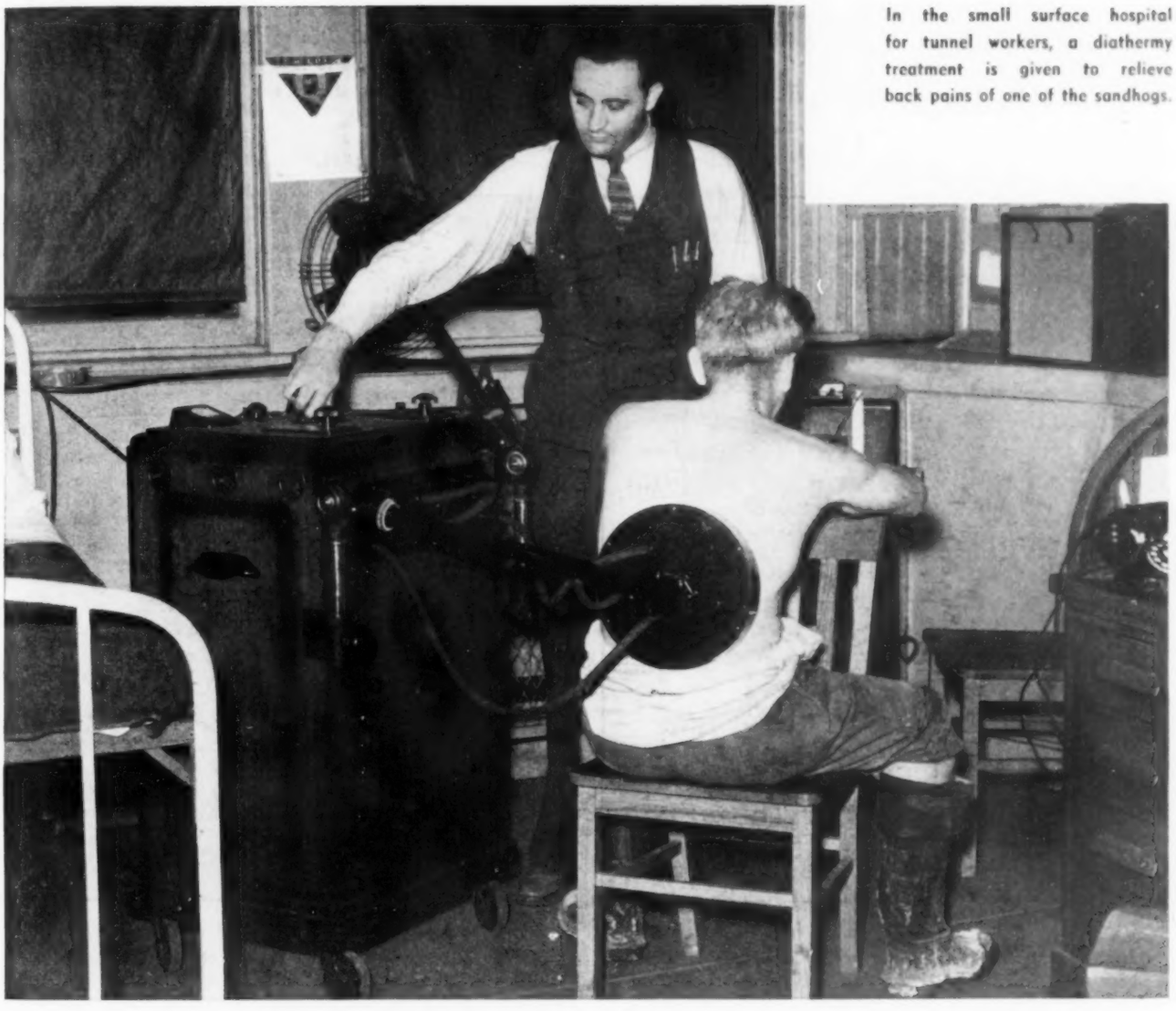
"It was."

"And you only put in *one* stitch?"

"That's right."

Immediately her countenance fell. She showed her disappointment. As quickly as possible, the technic was explained and confirmed by her two friends who witnessed the performance. She seemed satisfied, but obviously the wind was taken out of her sails. She was not permitted the pleasure of counting the stitches and of reciting the number in the aftermath. The scarless closure of a facial wound possibly weighed with her less than an opportunity to glory in the number of stitches. Even the on-lookers suffered a marked let-down. Had they been misguided by an exaggerated emphasis placed on sensational reports of wholesale suturing through uninformed journalists and mathematical doctors?

Let us, then, endeavor, to learn the nature of wounds, to discriminate between those that require stitches and those that do not and to consider the type of stitches needed, if any, and their proper application of more importance than their number. "Hold thou the good; define it well."



In the small surface hospital for tunnel workers, a diathermy treatment is given to relieve back pains of one of the sandhogs.

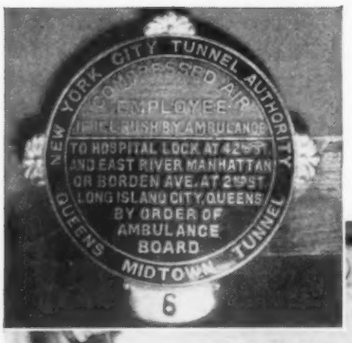
SANDHOG HOSPITAL

By Irving James Thorne
as told to Etta M. Seymans

DOWN by the East River, in midtown Manhattan, a tunnel is being built. Beside the mouth of the shaft which carries the men deep below the earth to battle with the river bed, there is a little white house with a green cross on it—the emergency hospital. For here, as wherever men tunnel beneath a mighty river, a hospital must be ready to care for the casualties, particularly the victims of the "bends."

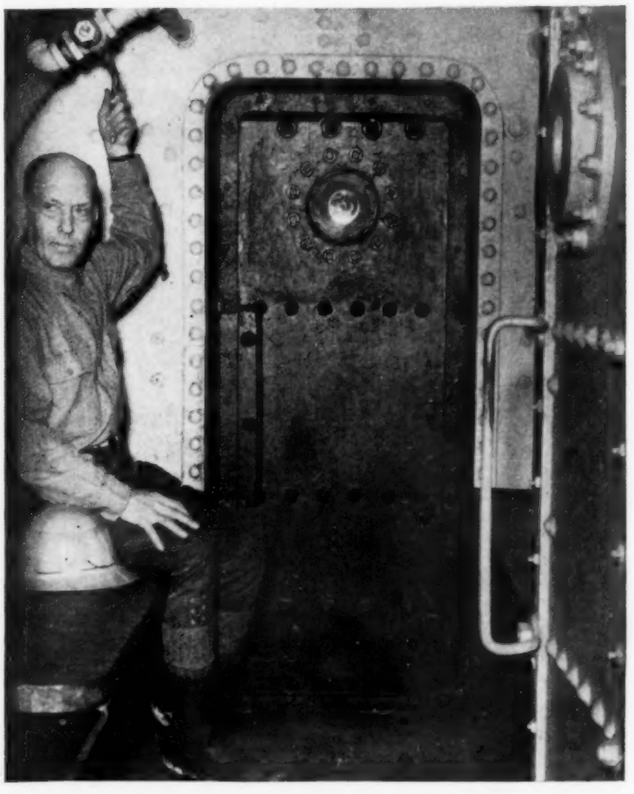
The emergency hospital set up by the construction company which is building New York's Midtown Tunnel is staffed by licensed physicians twenty-four hours a day. In a period of six months they may treat as many as 250 cases of the bends as well as fractures, cuts, bruises and the many other kinds of injuries which accompany the dangerous and spectacular task of battling a river titan.

Most of their patients are victims of the bends, an occupational hazard of the diver or sandhog. This affliction gets its name from the fact that it causes severe pain, frequently in the abdomen and the knees, which makes the victim bend over in agony. Normal air pressure is about 15 pounds to the square inch,



Special hazards accompany excavation work far beneath the surface. There, the air pressure is more than twice that of the ground level, which often causes a severe condition known as the "bends" if the sandhog—as he is termed—fails to take every precaution. He constantly wears a badge telling specifically what to do, if any one should find him in distress.

Interior of medical lock located in the surface hospital, showing a worker in the inner chamber.



Medical lock with bulkhead door closed. The controlling air valve is at upper left.

U. S. Dept. of Labor

This crew of sandhogs is about to be decompressed before coming to the surface. Lock tender, left foreground, stays with men and controls pressure. Compressed air line and valve shown overhead.

and sandhogs are subjected to an average pressure of 38 pounds per square inch when working under the river. If they are not properly decompressed as they come up to the surface, the men are liable to have a formation of nitrogen bubbles in the body tissues from the nitrogen they have absorbed in breathing the compressed air. These bubbles of nitrogen and blood simply ooze out through the skin, which may be the first indication that the sandhog has not been fully decompressed. The only treatment for the bends is to get the patient back into a decompression chamber as fast as possible. Once in the chamber, the air is compressed up to the pressure in which he has been working or perhaps 5 to 10 pounds higher. The patient is then gradually decompressed at the rate of 1 pound every two or three minutes. By this means, the nitrogen bubbles which have formed in the body tissues are dissolved and carried by the blood stream to the lungs, where the nitrogen is exhaled in the breath.

If nitrogen bubbles hit the brain or spinal cord, serious damage will result, unless decompression is started quickly. Therefore all of the men wear badges in their clothes reading, "Compressed air employee. If ill rush by ambulance to the hospital lock at . . ." Police are instructed to look for such a tag when they find a man doubled in pain or weaving unsteadily along the street.

But the tunnel hospital has more to treat than the bends. A piece of falling rock, dislodged by a dynamite blast, may fall on a workman's foot, causing a fracture. Or a fire may follow the explosion and burn the men fighting it. A workman may catch a finger in one of the giant hydraulic presses which push the shield forward through the mud and sand of the river bed.

When any such emergency occurs, the foreman rushes to the tunnel telephone, gets through to the physician on duty at the hospital on the surface.

". . . smashed his foot, doctor. Can't tell how bad, but he's conscious. Better bring your instruments."

The doctor slides into the old suit he has on hand for just such visits to the damp and muddy tunnel, claps a steel sandhog's helmet on his head to guard against falling rock and enters the shaft elevator which carries him down to the bowels of the earth, below the bed of the river.

The lock tender opens a door, and the doctor enters the decompression chamber, an elongated metal tube looking much like a big water boiler, lying on its side. Benches line the walls on either side of the chamber, seats for about twenty-four men at a time. It takes only a minute, going down. It's easier for the body to make the adjustment from normal air to compressed, than vice versa provided upper respiratory passages and ears are in normal condition.

The minute passes, the lock tender opens the far door, and the doctor steps out into the tunnel proper. The foreman is waiting to guide him to the spot where the injured man lies. The doctor takes a quick look to determine whether splints or a tourniquet are needed before the patient is moved. A stretcher, kept in the tunnel for just such emergencies, is brought, and doctor and patient return to the mouth of the tunnel.

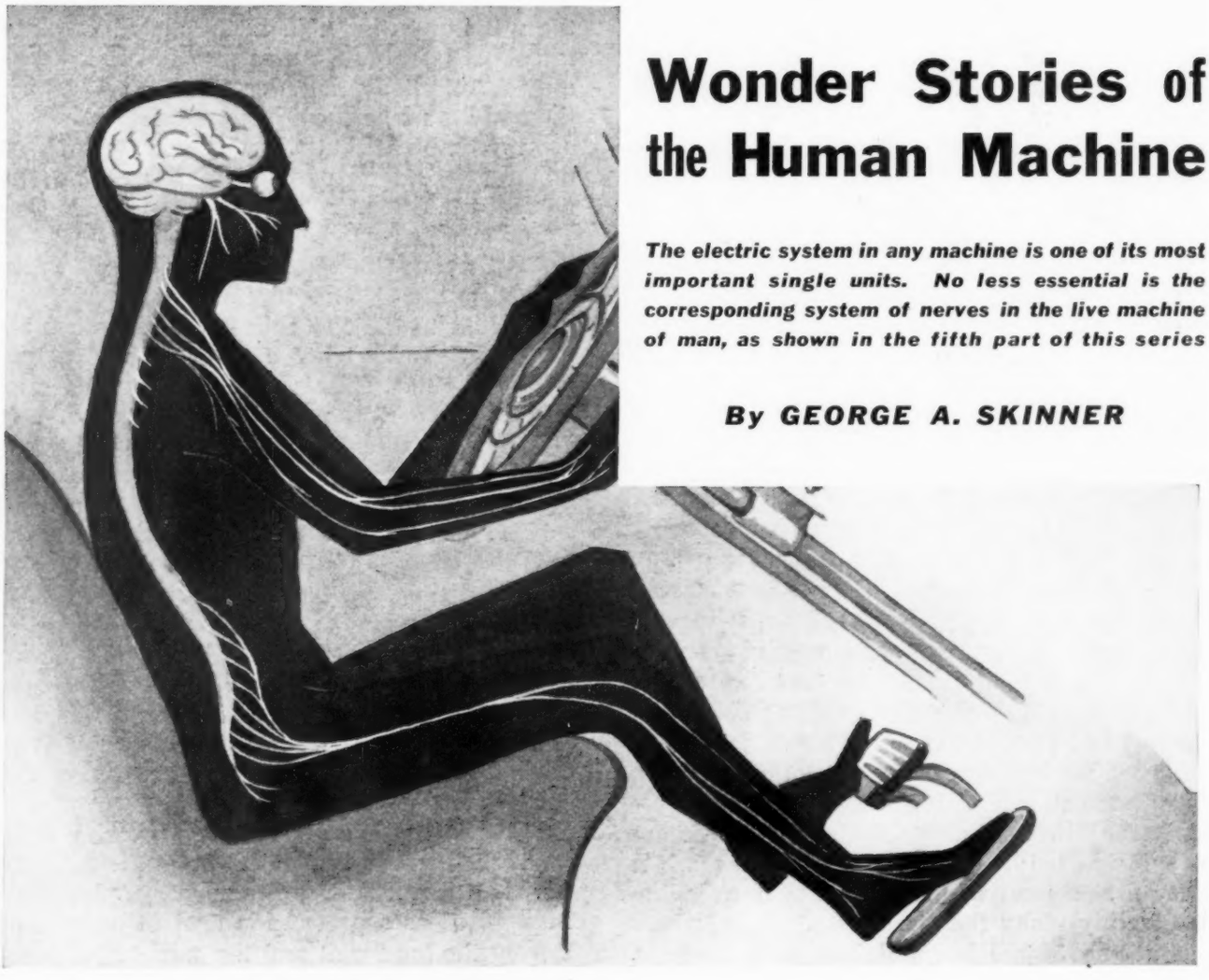
Into the decompression chamber the stretcher bearers carry the patient. The doctor joins him, and the door is closed. Now it will be forty minutes before the decompression process has been completed. And there is nothing to do but wait. Although the change in pressure is so gradual that the men in the chamber cannot feel any sensation of difference, it is risking an attack of the bends to hurry the process along.

If the injury is an open wound, perhaps the doctor will clean it up a bit or put a bandage on. If it is a fracture, a temporary splint may be applied as a precaution against movement during the long wait and the subsequent journey up to the field hospital. But usually there is little to do but make the patient as comfortable as possible and wait for the lock tender to signify that the time is up by releasing the door.

Now again there is plenty to do. The small electric train which carries materials down into the tunnel is waiting at the door of the decompression chamber. The patient is loaded onto it, and doctor and patient are carried to the surface.

Then into the little white hospital, and at last the doctor can really go to work, to set the broken bones, sew up the laceration or take what steps medical science has prescribed. The patient need not be moved again until he is cured. Here is a fully equipped eight bed hospital, six physicians covering a twenty-four hour service and a male nurse on hand whenever a bed patient is being treated.

The hospital has an emergency room and its own x-ray equipment. It can treat everything from an infected finger to a fractured skull, saving precious minutes which may often mean saving valuable lives.



Wonder Stories of the Human Machine

The electric system in any machine is one of its most important single units. No less essential is the corresponding system of nerves in the live machine of man, as shown in the fifth part of this series

By GEORGE A. SKINNER

THAT mysterious something which we call electricity has come to be so important in our lives that we sometimes wonder how people ever managed to get along without it. Some of us can remember when electric lights were first used and how yellow and dim they were. We think electricity is something new, and in many of its manifestations it is, but this human machine which we are now considering has used electricity effectively for hundreds of generations, and we are only now beginning to find out how many of the developments we regard as brand new have been in use on the human machine since the beginning of man's life on this planet.

In the automobile, the battery is the center of the electric system. It is the storehouse of electric energy and feeds all parts of the machine that use electricity. In starting the engine, a button is pressed, and some mysterious power spins the heavy pistons and crankshaft until the gasoline commences to explode. The explosions are due to an electric current jumping across two metallic points close together; in this leap, they produce a spark which ignites the explosive mixture of gasoline and air above these pistons. If we have occasion to sound the horn, that, too, is done by electricity. In cold weather, we may use a heater in the car; for this purpose, the warm air is circulated by a small electric fan. Smokers ignite cigars or cigarets from an electric lighter. At night we would be entirely helpless in driving if it were not for the powerful electric headlights that show us the road. Safety lights at the rear of the cars, lights of the dome, instrument board and sometimes parking and running board lights are all regarded as necessities. Many drivers also carry in the car a small electric torch, or "trouble light" that can be attached to the battery. In some localities fog lights are popular and necessary. In recent years the radio has become almost as common in cars as it has in homes, and these as well as numerous other gadgets depend on the battery for their power. All these important accessories are connected to the battery through a system of

wires carrying the current out and returning it to the battery, thus completing the circuit. Whether the current comes back through the steel frame of the auto or "ground connection" or on a direct wire makes little difference; but in order to function, the circuit must be complete.

A small but powerful generator driven by the engine charges the battery unless the car is idle much of the time, when some outside source may be required. So important is the electric system that if it breaks anywhere the car is immediately stalled. It is the most delicate, and therefore the most vulnerable, part of the automobile, and many of the troubles of the car are to be found in this system.

When we come to examine the human machine we are perhaps surprised to find how many of the ideas for our motor car may have originated from this source. The human machine has a marvelously perfect electric system, and we do not know all about it even yet. New discoveries are constantly coming up to startle us. The great storage battery is located in the skull, and we call it the "brain." (Here we must depart somewhat from the close parallel of the automobile and the human machine, for at this point a new element is added, of which the auto and all other machines are totally devoid. In addition to its electric functions, the large battery, or the brain, is generally regarded as the seat of human intelligence. Therefore it also assumes entire executive control of the machine.)

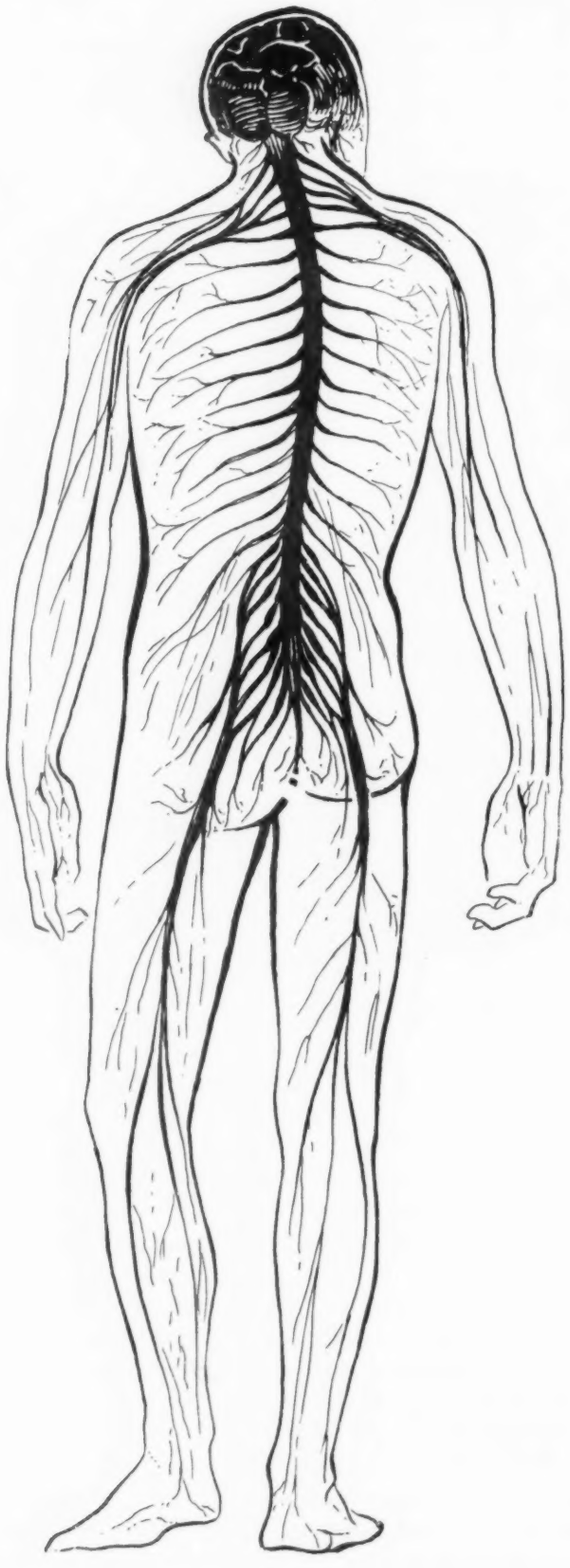
This battery of the human machine consists of two parts and is far superior to any man-made battery yet conceived, for the two parts coordinate perfectly, while having almost totally different tasks. The large brain, or cerebrum, is so much engaged in highly specialized duties that it does not have time for all the details of management that must go on constantly; if there is any failure of these, we become sick, or life ceases altogether. These minor and routine tasks must be taken care of, however, if the human machine is to continue running, so the big brain, which we might also liken to the chief executive of a big business, turns over certain of his responsibilities to a principal assistant, which we call the small brain or cerebellum. While the "big boss" continues to direct the whole machine, his chief assistant relieves him of the numerous details which must go on, leaving the cerebrum free for new and unexpected decisions which must constantly be made.

We have seen that the running gear depends for its power on the electric system, and without this power the running gear is stationary, no matter how perfect it may otherwise be. As the chief executive of a modern office or industrial plant can instantly communicate with all parts of the plant through an electric (telephone) system, so all parts of the human machine are in instant communication with the brain and the connecting elements we call nerves. All these nerves pass through the cerebellum where commands of the chief are elaborated and coordinated before they are dispatched for proper compliance.

While the electric system of the human machine has many remarkable similarities to that of the automobile, it is much more elaborate and has many functions that do not take place in the car, since the guidance of the car and its maintenance are not automatic, as with the human machine, but are furnished by the driver and his mechanics. Sometimes we might wish that the drivers were not so easily confused by outside influences and that more of the control might be automatic, as it is in railway trains and airplanes. So far, automatic functions have not been developed for the open road, so we must depend on the intelligence of the driver, who must use his "battery and electric system."

The electric system of the human machine is far more complicated and delicate than that of any other machine known. It is true that it resembles electric systems in general, but there are many notable refinements that have never been equalled by man's inventions. Most of the electric or nervous energy of the human originates in the large brain, and scientists think that nervous energy is only another form of electricity. From this great center the nerves pass through the smaller brain, and from there to the spine to form the spinal cord, the great cable from the battery. This gives off branches which pass out between the vertebrae, which are the individual bones comprising the spine, and these nerves divide and subdivide until they become too small to see with the unaided eye. Many of them end in little platelike bodies, by which we are able to feel. There are two complete sets of wires or nerves, and none of the incoming currents are grounded; each current has its own special track on these nerves.

For example, suppose your finger came into expected contact with something quite warm. The little plates are roused into activity by the heat, telegraph the fact to the center or brain, and you become aware of the warmth. Now suppose that the object which the finger had touched was red hot: Part of the process



This diagram of the spinal nervous system shows how all parts of the human machine may be in instant communication with the brain.

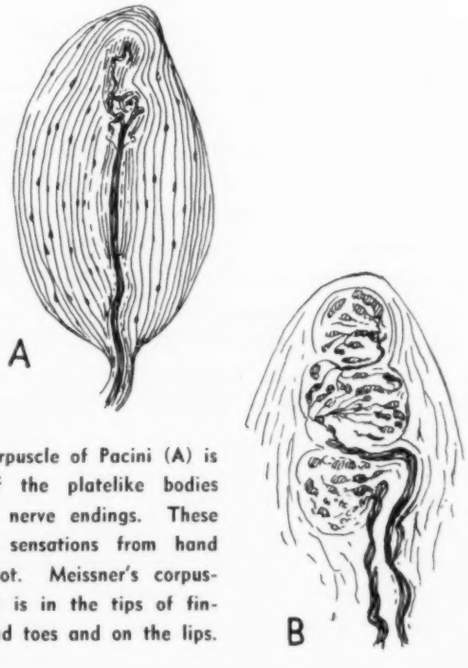
would be the same, but while the sensation would reach the brain, one of the lesser brains in the spinal cord much nearer the finger would not wait for the big chief to send the order back but would act on his own responsibility and instantly order the muscles to contract and remove the finger from the danger. Hence, such unusual speed usually averts danger. If time were taken to transmit the news and receive the order from the brain, the finger might be seriously burned.

Sometimes we wink suddenly, just in time to avoid something entering the eye. We may not know why we winked; but the tip of an eyelash probably was hit by the moving object and signaled the nearest "watchman" or nerve center, who ordered the eye closed. The action was so quick that the lid was down before the body could pass from the end of the hair to the eye. Sometimes however, even that is not quick enough, and the foreign body moving faster enters the eye. We involuntarily clamp down the lid, and usually hold the foreign body firmly until another order can be given to flood the eye from the lacrimal or tear gland and wash out the offending body. If we have enough presence of mind to let this marvelous electric system handle the job in its own way, the chances are that in a moment the tears will flood the eye, and the dirt will be washed out. But if we immediately start to rub the eye, as is so often done, we may succeed in driving in the foreign body so that it becomes difficult to remove. It is better to allow the tightened muscle, or muscle spasm, to remain thus until the flood of tears arrives, when it will relax. Water is one of the best means of removing dirt from almost any place. These rapid circuits, which act before we could possibly think of what was happening, are called "reflex movements" and are a tremendous protection to the whole machine. We see another reflex if we stumble, for our hands are extended to break the force of a fall before we could think what to do.

Minor storage batteries in the human machine are called "plexuses"; these save much time in notifying the central nervous system of minor needs of the body, and many of the smaller brains carry on their activities unsupervised so long as everything goes along normally. One of the largest of these so-called brains is located near the spinal column at the upper and back part of the abdominal cavity. This plexus, the solar plexus, is large and important. It plays an essential part in the control of breathing, the digestive system and to some extent the heart's action.

Ordinarily, we know nothing more about our digestion than that we enjoy eating, and at the proper times we eat and then forget about it. After a particularly large meal, such as a Christmas dinner, we may feel a bit crowded in the region of the belt, but unless we have greatly transgressed dietary laws, this feeling soon passes, and digestion goes on unnoticed. But if some combination of foods fails to be properly disposed of in the chemistry of the body, a change may take place, gas may form, and the intestines become much distended. Then the solar plexus may not be able to handle the job alone and have to notify headquarters. In the meantime, the owner of this electric system begins to feel queer, perhaps is sick at the stomach, has severe abdominal pains and calls for help. Perhaps while the message was being forwarded to the brain that trouble was occurring in the abdomen, the solar plexus took the initiative and ordered the stomach unloaded. The stomach would promptly carry out the order, its muscles going into reverse, and vomiting would occur, often greatly relieving the strain.

The location of this great plexus also explains why a sudden blow in the pit of the stomach is so likely to result in a "knock out." If the muscles are strong in the abdominal wall and the person is aware that he may be struck, there is rarely any damage to the plexus unless the blow is exceedingly severe. But when unprepared and the muscles are relaxed, a sudden blow over the plexus will for the moment stop the heart beat, paralyze the breathing muscles and cause loss of consciousness. Fortunately, recovery is usually prompt, but the shock is severe and sometimes is serious enough to cause death.



The corpuscle of Pacini (A) is one of the platelike bodies of the nerve endings. These convey sensations from hand and foot. Meissner's corpuscle (B) is in the tips of fingers and toes and on the lips.

Nervous energy gives reactions that may be recorded and measured exactly as electric energy is recorded and measured. We take advantage of this as an aid to diagnosis especially in heart diseases. This engine of ours will tell its story by means of the electrocardiograph, a marvelous recording instrument utilizing electric currents generated by the heart muscle. By placing ordinary electrodes over various parts of the body, the heart will speak almost as clearly by means of the record it makes as if it were using words. Usually three of these electrodes are used, one on each wrist and one on the left ankle. By switching the current so that three paths are selected by the heart currents, a needle will vibrate, and its movements may be photographed. Each path gives a somewhat different picture, the left arm to left ankle, right arm to left ankle and across the two arms. Some observers use as many as nine electrodes to get more detailed pictures. These delicate tracings, much magnified, tell a story that the expert can read easily and help greatly in interpreting the power of the heart muscle, of telling us of its disabilities and giving valuable information as to the possibilities of repair and the means thereto.

All muscles give off electric energy when contracting. The reverse of this process is utilized to make the muscles contract at will by an outside force. A gentle electric current, supplied by a small galvanic battery, is applied to the muscles to assist them when damaged by disease or injury to recover their ability to contract. It supplies the energy that cannot get through from the regular nerves until repair has taken place.

The latest indications that electricity is of great importance in the body are the studies now being made of "brain waves." Some interesting and rather startling results have been achieved, though at present the studies have not advanced far enough to determine just how valuable they may be. Often such studies, which seem at first to be mere playthings of the scientist, develop into real and permanent value in diagnosis and treatment, so they are watched with great interest.

While we cannot do much toward replacing a damaged battery or wires in the human machine, we are not entirely helpless. If main lines are cut, we can sometimes repair them by "splicing," that is, secur- *(Continued on page 87)*

PNEUMONIA—*An Emergency*

Today, pneumonia is less fatal, more easily diagnosed and of shorter duration than it has ever been before. Research has revealed methods of treatment which make of pneumonia as much of an emergency as appendicitis.

By ROBERT TOUBIB

IN ONE of the medical wards this morning, I found a nice new transparent oxygen tent suspended over the head of a bed like an impervious mosquito net. And, like a mosquito net, it was tucked in all around the patient's mattress so that it completely enclosed him. I could see that he was reading war news.

"Good morning," I said, "you have come in since I made rounds yesterday. What's the trouble?"

He lowered the newspaper, and I saw a young man with pink cheeks and a pleasant smile. His appearance invoked envy, not pity.

"They say I have pneumonia," he replied.

"And what do you say? Tell me just what happened."

"I had a chill the night before last. My teeth chattered. After that I got hot, and I began to ache all over but worse in the chest. Then I began to cough, and that hurt worst of all. My doctor sent me in here. I felt pretty bad all day yesterday, but I feel a lot better this morning."

I glanced at the man's chart: temperature 100 F., pulse 94 and respiration 24. Not a great departure from normal. In spite of the history which was typical of pneumonia, I was still incredulous about the diagnosis.

Back in the ward office, I looked up the case record. His physical examination described the findings of a consolidation of the right lower lobe of the lungs. A portable x-ray picture had been taken. I read further and learned that the man's sputum had been typed immediately on arrival, and the corresponding serum (type 2 in this case) had been administered within two hours after his admission to the hospital.

"Why," I meditated as I continued my routine tour of the hospital, "the case has been handled as rapidly as if he were a surgical emergency." I made a mental note to compliment the doctor and the technicians who had cooperated so efficiently in the case.

When I reached the x-ray laboratory, I asked to see the film which had been taken at the man's bedside. Sure enough, the right lower lobe of the man's lung showed a white shadow which obscured the picture of the ribs over a large area.

I could not get over it: An airtight diagnosis of lobar pneumonia had been made, and the patient was all but symptom free in less than twenty-four hours. Here was a striking accomplishment!

It was the dramatization in a single case of an important advance in medical science: the fact that pneumonia has been made an emergency disease. It has become a disease which can be rapidly diagnosed, in which the comfort of the patient has been improved and for which specific treatments have been created which increase the patient's chances and shorten the average duration of the disability. Incidentally, statistics show that modern treatment costs less per case, not per day.

But these advances will become valuable only in the proportion that the public realizes their existence. Because the modern management of pneumonia, like the management of other emergency diseases, only has its full value when initiated early in the disease. The advantages of modern treatment decrease rap-

Ewing Galloway

A typical oxygen tent for use with pneumonia. The tanks that supply this auxiliary oxygen to the enclosure are at right.

idly, if that treatment is delayed. It must not be delayed. That is why people should know something about modern treatment.

A hundred years ago, pneumonia was diagnosed by the history and the rusty appearance of the sputum. Then came the physical signs revealed by percussion and the stethoscope. Forty years ago we began to examine the blood and stain sputum. Twenty years ago we began to learn about types of pneumococci and, later, to use serum treatment. Less than ten years ago chemical treatments appeared. Until serum treatment was created, there was no great change in the handling of pneumonia. More correctly, there was *no* treatment of the disease itself. Only the patient was sustained and comforted in the hope he would produce enough of his own antibodies to defeat the disease.

If the patient was young and strong, his chances were 10 to 1 against death. The odds shifted gradually with increase of age or the decrease of strength until in the old and weak, *death* had the long end of the 10 to 1 shot. Then we learned how the types of pneumococci loaded the dice, first for the patient then for death.

Fatigue was the patient's worst enemy. And the well trained doctor, in the days before specific treatment, realizing at once the patient's long fight, was inclined to treat him where he was, provided intelligent nursing could be provided. In those days, the best equipped hospitals had little to offer the pneumonia case that a decent home could not supply. That little could rarely justify the fatigue of a long drive over bad roads or cobblestones and perhaps in a horse-drawn and drafty vehicle.

Neither is it enough today to note that the sputum is rust colored nor even to find many pneumococci under the microscope. We must find what type of pneumococci. In serum treatment this information is essential, because only the serum of the specific type causing the infection is of value. We now know of more than thirty types of pneumococci, and for each we

have a serum which arms the patient with antibodies to fight the pneumococci. But in certain types, the action of serum is not as yet satisfactory, and it is necessary to complement or replace serum therapy by chemical treatments; the pneumococci are then attacked by these drugs.

In chemical treatment, too, typing is important because it helps to determine the prognosis [outlook] and to indicate the drug which should be used.

It is probably not optimistic to estimate that the pneumonia victim who is treated by modern methods from the outset has three times the chances he would have had twenty years ago. In addition, the average duration of the disease is decreased by several days. But the decreased death rate is not alone due to serum and drug treatments which have been created during those years. It is due to advances all along the line from recognition of the first symptoms to convalescence.

At the very onset of the disease, the danger of reasonable transportation is not great. Therefore, the decision must be made at once *where* the patient is to fight his battle. Then he must be transported as a stretcher case in an ambulance and under the personal supervision of the physician who will see that the patient is medically prepared in order to minimize the fatigue of moving. And when we score up our gains in treating pneumonia, we must not forget comfortable stretchers, modern ambulances and good roads.

In oxygen treatment, too, the advance has been remarkable. Twenty years ago, the oxygen tent was regarded as the harbinger of death. It was a cumbersome and ineffective affair in which the patient felt he was being placed in a sort of preliminary coffin. Oxygen treatment with the new transparent tent or with the modern respirator has lost most of its horrors. Now it is used promptly for cyanosis [blueness of the skin, caused by lack of enough oxygen in the blood] and relieves much of the distress of breathing, one of the worst symptoms of the disease.

The patient who may have half his lung involved by the disease does not have to breathe twice as much with the other half. In the oxygen tent, or with the inhalator, or even with a catheter, he can simply breathe air which is artificially rendered twice or even three times as rich in oxygen. It is obvious that oxygen treatment saves the patient's strength by permitting him to get his necessary oxygen supply with less effort.

In spectacular procedures using oxygen, serum and specific drugs, the strength of the patient himself must not be neglected. Rest and quiet must be maintained; nursing must be continuous and intelligent; nourishment, vitamins, salts and fluids must be supplied. But all these details are the responsibility of the doctor, the nurse and the dietitian.

The question of specific treatment: Whether to use serum or one of the new drugs like sulfapyridine or a combination of both treatments is a problem which must be solved in each particular case by the physician himself. The deciding factors are type of organism, the result of blood culture, the degree of lung involvement and the condition of the patient. New details of treatment are continually being perfected and modified as experiment and experience prove their value to the profession.

The one important fact for people to grasp is that the efficiency of modern treatment of pneumonia is in almost direct proportion to the promptness with which that treatment is instituted. Given: A chill followed by high fever, pain in the chest and cough, it is the person's duty to see that the doctor has the chance to exclude the enemy, pneumonia, or to engage battle at once on the most favorable terrain available to the patient.

Pneumonia has become as much of an emergency disease as is appendicitis. After a third of a century, most, not all, have learned not to treat pains in the stomach with epsom salts. The results of such ignorance are still frequently tragic. How long will it take us to learn the signs pointing toward pneumonia and realize that modern science can do much, in addition to the sustenance and comfort it could offer twenty years ago? That is, modern science *can* do much *if it has the chance in time.*

"Recess"

It's seldom men and women hurry by
  A schoolyard filled with childish revelry;
Somehow, they always find the time to eye
  This scene of joyous tumult wistfully,
And marvel much at the amazing way
  That children have of shedding every care,
Wings sprouting swiftly when they're out to play.
  And as adults move on, they wonder where
In life they lost the art of calling on
  "Recess," this interval of brief respite
From which new strength and courage can be drawn
  To make some pressing burden small and light.

By Pauline Soroka Chadwell

The SLEEP of the INNOCENT

By HERMAN M. JAHR

ELMER BROWN is a model of boyhood, according to his mother. He is 10 years old, obedient, kind, helpful and apparently happy. Even in early childhood he showed consideration for others. Many examples are cited to prove his unselfishness. Elmer is the pride of a rather extensive family, all members of a respectable social circle. In addition to being an only child, he is also the only male descendant to preserve the name and, in time, the integrity of an old mercantile institution, the origin of which dates back to a pioneer era. Elmer is a healthy boy, and in addition to his potential wealth he is, one may say, far from foolish. These three qualities, oddly enough, bring us to the chief complaint as registered by Mrs. Brown.

The boy is a poor sleeper. He goes to bed early, but falling asleep is a struggle. He tosses from side to side for hours, often until past midnight. To add to the difficulty, he wets the bed practically every night. Aside from these annoyances, there is no trouble. Elmer is self reliant, though admittedly more inclined to follow than to lead. His mother, a sensible and intelligent woman, has made every effort to instil an attitude of independence. The response to this training has been satisfactory but for the complaints here enumerated. He had always been a poor sleeper. Even during infancy, the slightest sound would waken him, and he would lie awake for long periods. "It was heart breaking to see the poor child suffer uncomplainingly. We were told not to worry about it, that in time the condition would correct itself. However, instead of getting better, it is growing steadily worse. In all his life I am certain that the boy never slept more than three or four hours a night."

That the child was subject to insomnia was apparent. It was equally apparent, however, that Mrs. Brown was exaggerating the complaint in no small degree. Elmer was an agreeable little fellow. But he agreed with his mother only partially. Yes, he was having a little trouble falling asleep. "But that's only sometimes, not all the time!" The emotional attitude between Mother and son became clear from the start. Fortunately Mrs. Brown was an intelligent woman, and it was possible for her to see the picture objectively. With the aid of a mild sedative for several nights, the insomnia disappeared. The bed wetting persisted for some weeks, but ultimately cleared up.

The problem in this case was comparatively simple. The nervous system of the infant is highly sensitive. All babies are light sleepers; they are wakened by the slightest sound. Many mothers mistake this natural phenomenon for nervousness. Luckily, as the child grows and becomes active enough to be fatigued, sleep assumes the usual loss of consciousness, and many youngsters, as most parents know, sleep so soundly that it is at times impossible to rouse them. However, as is the case with most bad habits, where undue stress and attention are laid on the condition, the child soon finds a weapon over his parents and proceeds to use it, regardless of what the consequences may be. A vicious circle is thus established: The less the child sleeps, the more solicitude he receives, and, the more effective the weapon, the greater is the tendency to continue its use.

Mrs. Brown readily admitted that Elmer's insomnia was the most popular subject for discussion morning, noon and evening. "He had us all worried . . ." And, "After all, he is the only male Brown in the family!"

The most frequent disturbance of sleep in childhood is that associated with restlessness.

The child who is afflicted with night terrors, insomnia or who habitually walks in his sleep is mentally and physically tired, according to this author. Several typical experiences are explained in this article and their cure prescribed

This may vary in degree from grinding the teeth, to sighing, screaming, talking, to banging the head against the sides of the bed. This restlessness is erroneously attributed to worms, to a guilty conscience or to an inherited disposition. Several years ago I saw a little girl whose mother assured me that her daughter's teeth grinding was due to her having a wisdom tooth pulled while she was "carrying" Lucile. "My friends warned me that I would mark the baby. I should have listened to them," she argued. This woman seemed never to be convinced of the utter stupidity of this theory.

Jackie Smith was first seen twelve years ago at the age of 11 years. He was a very restless sleeper. He would carry on all night long: grinding his teeth, talking, screaming, banging his head against the bed until welts appeared on his forehead. "This trouble had been going on for several years, but nothing that was advised had any effect on his restlessness." He had had every kind of "worm medicine" offered by druggists, but they only brought nausea. The sides of the bed had been padded to prevent injury. In the morning the bed clothes, in fact every object that was placed in bed except the mattress, were on the floor. Jackie slept so soundly that he knew nothing about it, until he was scolded on awakening.

Half asleep, she climbs out of bed, she puts on her slippers and automatically walks into the living room.

The boy appeared well developed, alert and agreeable. He could not understand why any one should be concerned about his sleeping habits. "What difference does it make how I sleep. Anyway, I don't do it purposely." He dreamed a lot, he said; "Oh, about everything." Here the mother comes to his aid: "He screams out like a madman. And the words he uses are shocking, even to his father."

There is another type of difficulty associated with sleep—interrupted sleep. In the first two types, if the child wakens at all during the night after he once falls asleep, it is only for a short interval. In the last group are children suffering from night terrors and those who walk in their sleep. In the former group the child awakens suddenly out of his slumber, looks dazed, jumps out of bed terror stricken. At times, it takes an hour to quiet him. When he comes out of the daze, often he does not realize what has happened. This spectacle may repeat itself once or twice during the night. In sleep walking, the youngster climbs out of bed half awake and wanders around the house. If no one hears him, he may engage in his usual play for some time, returning to bed asleep and unaware of the interruption. This, however, is the exceptional behavior rather than the usual.

A 5 year old girl periodically takes these somnambulistic trips into the living room about 11 o'clock. She follows a regular routine. Half asleep, she climbs out of bed, she puts on her slippers and automatically walks into the living room. She sits down in her own little chair, looks around but does not seem to identify any one; she does not utter a word. Her mother quietly takes her back to bed, and the child goes willingly. She seldom wakens during the whole procedure. Nor does she ever admit knowing anything of the incident the following morning.

Beside this tranquil scene there is the case of Donald Woods. Donald was a little fellow of 4 when two years ago his symptoms began. For a few weeks, his mother complained at the time, the boy had been awakening out of a sound sleep with a piercing shriek, and when she got to the bed the child appeared horror stricken. He pointed in every direction, screamed, and no effort at quieting him

availed. He hid his face on his mother's shoulder and sobbed for an hour or more.

On examination, the boy appeared under par physically. His tonsils were large, and his adenoids filled the entire space in back of his nose.

While it is true that many of these disturbances can be explained on a psychologic basis, we cannot escape the fact that a great many of these children suffer from physical handicaps, in most instances correctable, that interfere with their rest. An overloaded stomach causes pressure on the diaphragm and thus makes breathing difficult. Overgrowth of adenoids obstructs breathing. Indeed in many cases, especially where the child has not as yet cultivated the unsightly habit of mouth breathing, respiration may be deficient to such an extent as to produce an excess of carbonic acid, which often is the cause of night terrors.

In Donald's case both factors operated. In an effort to "build him up" Mrs. Woods insisted that the boy drink a glass of a well advertised "sleep inducing" drink each evening before she put him to bed. The pressure of the distended stomach against the diaphragm undoubtedly produced embarrassment to his breathing. Add to this his mass of adenoids obstructing the inflow of air, and there will be small wonder that the youngster was tortured by night terrors.

For centuries the dream has been a subject for speculation and investigation. Even in this enlightened era, however, in view of the nonsensical stuff dream books contain, they enjoy spectacular sales. The fact that some persons who are otherwise intelligent are secretly slaves to the superstition of dream interpretation by "fortune tellers" is sometimes more mystifying than the absurdity of the interpretation itself. This of course does not apply to the scientific evaluation of the subconscious processes as expressed in the dream. Here is a field which the psychiatrist utilizes constantly, often with benefit to his patients. This study, however, requires technical skill which only those with special medical training possess.

His night terrors were traceable to the physical discomfort produced by the "sleep inducing" drink his mother made him take every night.

The child usually finds herself in a helpless struggle with demons, bandits and grotesque figures when she abruptly wakens from these dreams.

For the purpose of this discussion the dream must be regarded as a normal phenomenon. Man thinks in terms of experiences and imagination. Occasionally, he indulges in a little wishful thinking. In the wakeful state, that part of the brain with which we reason acts as a check on our thoughts. It tells us what is real and what imaginary. When we go to sleep, we lose consciousness gradually. The brain also wakes up gradually. It is during this stage when we are only partially conscious that our thoughts wander off unchecked. The brain does not exercise its moderating functions. Our imagination therefore is free to travel unhampered. How fantastic it may at times become is known to every one who is given to dreaming. Bright children, especially those who are light sleepers, dream oftener than dull children or than adults, due partly to the vivid imagination for which childhood is known and partly to their occasional inability to differentiate the real from the imaginary, even in their waking state. I know an 8 year old boy who often wakes up late in the evening and insists on going to school. No amount of reasoning can convince him that it is night time. He dreams the most fantastic dreams and on awakening invariably looks for the things that he saw in his dreams.

Physical discomfort often produces nightmares, and in young children these unpleasant dreams often assume the form of night terrors.

A chapter or two in a detective story was part of the evening ritual because his father thought they were good exercises for children's brains.

These dreams are sometimes objective, but usually they refer to the person of the dreamer. It is a well known fact that an adult asthmatic, for instance, at the onset of an attack during sleep may "see" his friend or a close relative struggle for breath, only to awaken in a sweat to find himself gasping for air. In the child, however, the dream is mostly of a subjective nature. The child usually finds himself in a helpless struggle with demons, bandits, wild beasts or grotesque figures. He attempts to bring his muscles into action, but they seem to have no power. He becomes terror stricken, and this terror is progressively increased by his own groaning. He is partially awakened by the trembling of his body. His face is flushed and cold from perspiration.

With the exception of those cases in whom a physical basis is accountable for the disturbances of sleep, children thus afflicted are mentally and physically tired and at times also emotionally unbalanced. As in the case of children with other bad habits, these youngsters require tact, understanding and discipline. All children demand, and for that matter are entitled to, sympathy. But this sympathy must be meted out with sound judgment. It cannot be measured by any known standards. Yet the wise parent who makes an effort to understand the child and his problems will soon learn the optimum that is necessary to keep the youngster happy. And let it be remembered that happy children do not become problem children.

Take the case of the little girl who walks in her sleep. She is a beautiful child in excellent physical health. Every one who sees her immediately proceeds to make a fuss over her looks and her grown-up manners. In the past few months her parents have begun to quarrel and bicker, not infrequently in front of their only child. Whether this is the real cause of the girl's somnambulism one cannot be certain. From a few remarks that she has made, I feel justified in suspecting parental disharmony as a probable factor. "I can't go to kindergarten very long because my mother is going to leave my Daddy soon," she said on one occasion. To her mother's scolding she replied simply, "I heard you say it to Daddy last night." "Last night," the mother countered, "was more than a month ago."

Jackie Smith, the 12 year old boy who talked and screamed and banged his head in his sleep, was the "baby" in a poor family of four children. He was always a "delicate" child, his mother said, though of late he had begun to put on weight. From the very start it was suspected from the description that his antics were not true to form, but this was attributed to maternal exaggerations. Unfortunately Mrs. Smith refused to cooperate by eliminating the "worm medicine." Less than a year ago I encountered Jackie in the role of a young father. To my inquiry about his restless sleep, he replied blushingly, "Mother was not nearly as sore as I was at the time. I wasn't faking . . . well, not all the time. Only when I cussed; I used to get a big kick out of hearing my father laugh and kid Mother; Mother was so pious." He then proceeded to tell proudly how during those outbursts the whole family would gather around his bed and listen to what he had to say! "I had 'em all fooled."

Another boy presented some minor emotional difficulties about ten years ago. This boy was asked to write down his dreams every morning and to bring these in at the end of the week. He was an inveterate dreamer, according to his mother. At the end of the week Harry brought in a notebook full of dreams. There was no thread of continuity, and they were therefore useless for purposes of treatment. Years later, Harry confessed that he had not dreamed a single time during that particular week. "You never do when you have to, you know. But Mother insisted that I write down my dreams; she is a great believer in them. Besides, I did not want to disappoint my doctor."

To return to Elmer Brown, the model boy who had so much trouble falling asleep. The average child at the age of 10 years falls asleep from 20 to 30 minutes after going to bed, unless there is some interference in the process. That there was more than the ordinary activity in the Brown home at *(Continued on page 88)*

THE

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PUBLIC MALADY NUMBER ONE

(Continued from page 10)

interesting than these home remedies that few people follow them: Take a hot bath, get to bed, eat lightly, drink plentifully, keep your bowels open, and call in the doctor if you feel the need of medication.

The doctor wants us to do these things not because he thinks they will cure our cold (he knows they won't), or because a cold is dangerous in itself, but because bacteria of great potential harm are usually present in our mouths and throats, and when the common cold virus gets a foothold, the inflammation makes it easier for pneumonia and other infections to follow in its train. The third or fourth day is the most important. This is when these organisms have reached the height of their development. The doctor also wants you to lie in bed because there you will be the least possible menace to others. And when your children show signs of a cold, the doctor would particularly prefer them to be in bed because colds affect them more severely than adults, and because a number of much more serious diseases, such as measles, whooping cough, scarlet fever or diphtheria, often begin with symptoms that closely resemble a cold.

In their ignorance, laymen may be impatient at the little which science knows about so silly and common an illness as the cold. But the doctors, who are busier at cold research than ever before, already know quite enough to prevent much of the damage and suffering caused by colds, if laymen would only stop applying their own pet remedies long enough to listen.

SAFETY SONNETS

PROFIT & LOSS
BAD BREAKS IN BUSINESS ARE GRAVE, IT IS TRUE,
AB ST. MINDED HE GOT KNOCKED COLD; WHEN HIS BRAKES DIDN'T HOLD!
BAD BRAKES ON A CAR ARE A GRAVE AFFAIR, TOO!

—National Safety Council

These dates, just maturing on the tree, have not yet begun to shrivel before the harvest.

DRIED FRUITS

DATES, figs, prunes and raisins are popular dried fruits that come into their own in winter months when the markets are not well supplied with fresh fruit. Shredded coconut is included in this group because it is the partially dried fruit of a variety of palm. The palatability, keeping quality and taste appeal of dried fruits make them especially popular.

Prior to the development of the canning industry, drying was the method most frequently used for preserving fruits. Today, fruits are dried either by exposure to the sun or in specially constructed dehydrators. Some fruits, such as apricots and peaches, are exposed to the fumes of sulfur dioxide before drying to prevent discoloration. Other fruits, such as prunes and figs, are dipped in lye before drying to tenderize the skin and thus facilitate the drying process. A large proportion of the residues remaining on the fruit from the sulfur and lye treatment is removed by water sprays, to which the fruit is subjected after drying. More of the residue is removed in the kitchen, such as when soaking in water.

Excessive sulfuring is objectionable because it permits the marketing of watery dried fruits, not because of any danger of harm from eating them. The Council on Foods of the American Medical Association is of the opinion that small quantities of sulfur dioxide [the residue from the sulfur treatment] are not objectionable in dried fruits, provided the quantity does not exceed that compatible with good manufacturing practice and provided the presence of sulfur dioxide is declared on the labels of the packaged fruit.

Dried fruits are wholesome and useful food products. Because they are partially dried, they are more concentrated in food value and have a greater caloric value than fresh fruits. For example, a luscious ripe prune as it is picked from the tree is about 75 per cent water. After the prune is dried, it is only 18 per cent water. This dehydration results in a greater concentration of nutrients natural to the fresh fruit. A pound of fresh prunes provides 420 calories; a pound of dried prunes provides 1,400 calories. Similar comparisons may be made between fresh and dried figs and between grapes and raisins; dates and coconuts are naturally dry fruits and are usually marketed in their natural state or only partially dried.

The composition of accepted dried fruits is given in the accompanying table. Note that coconut

is 40 per cent fat, which accounts for its high caloric value. The next time you wish to increase your caloric intake you might add some coconut to your fruit cup or cake. Likewise, when planning meals for members of your family who are inclined to be overweight, just remember that an ounce of coconut provides 160 calories.

Note also that figs contain more crude fiber than any other dried fruit. Crude fiber consists largely of indigestible carbohydrates; these contribute only bulk to the diet and are recognized as having a laxative effect.

Prunes also have a laxative effect, but the laxative principle in prunes is due to a water soluble agent in the fruit rather than to its crude fiber content.

Some mothers have asked, "Are dried prunes good for children?" The answer to this question is, "Yes, provided the fruit is cooked and sieved or cooked and chopped, depending on the age of the child." The Council on Foods has accepted several brands of sieved and chopped prunes. (Accepted brands of canned sieved and chopped fruits were described in February 1939.)

Properly dried fruits contain practically all the nutrients natural to the fresh fruit. But there is evidence that vitamin C is largely destroyed in all fruits by any form of drying, unless sufficient sulfur dioxide is present.

Dried fruits offer the homemaker many culinary opportunities—from simply stewing the dried fruit to concocting a fruit pie or fruit whip.

COMPOSITION of DRIED FRUITS

	Moisture	Ash	Fat*	Protein†	Crude Fiber	Carbohydrates‡	Calories per oz.
Coconut	5.1%	0.8%	41 %	4.3%	4.1%	40.4%	161
Dates	19 %	2.2%	1.9%	1.7%	2.2%	73 %	90
Figs	27.9%	2.2%	0.4%	3 %	7.4%	59.1%	71
Prunes	18.4%	2.2%	...%	2.8%	1.8%	75.8%	88
Raisins, seeded	17.3%	2 %	...%	2.5%	...§	76.7%	91
Raisins, seedless	17 %	1.6%	0.2%	2.6%	0.9%	75.9%	91

* Ether extract. † Protein equal N x 6.25. ‡ Other than crude fiber, by difference. § Not reported.

ACCEPTED DRIED FRUITS

The following brands of dried fruits stand accepted by the Council on Foods of the American Medical Association.

COCONUT

Dromedary Shredded Coconut, packaged
Dromedary Shredded Coconut, canned

DATES

Dromedary Golden Dates, pitted
Dromedary Golden Dates, plain

FIGS

Cresca Smyrna Locum Figs
Cresca Hygeia Smyrna Locum Figs

PRUNES

Daisy California Prunes, pitted
Daphne California Prunes, pitted
Heliotrope California Prunes, pitted
Liberty Prunes, pitted
Mission California Prunes, pitted
Pansy California Prunes, pitted
Pansy Santa Clara Prunes Large, pitted
Pansy Santa Clara Prunes Medium, pitted
Pansy Santa Clara Prunes Small, pitted
Phoenix California Prunes, pitted
Rosedale Santa Clara Prunes, pitted

RAISINS

Carnation Pink Muscat Raisins, seeded
Daphne Muscat Raisins, seeded
Free Flowing Muscat Raisins, seeded
Fuchsia Muscat Raisins, seeded
Gazelle Raisins, seedless
Glenwood Thompson Raisins, seedless
Glenwood Thompson Raisins, seedless, with added raisinseed oil
Holly Muscat Raisins, seeded
Horseshoe Muscat Raisins, seeded
Horseshoe Raisins, seedless
Jockey Club Thompson Raisins, seedless
Mission Thompson Raisins, seedless
Mission Thompson Raisins, seedless, with added raisinseed oil
Pansy Muscat Raisins, seeded
Pansy They R Seedless Fancy Quality Raisins
Quaker Muscat Raisins, seeded
Rosedale Fancy Thompson Raisins, seedless
Santa Claus Muscat Raisins, seeded
Temple Thompson Raisins, seedless

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Wheat, milk, yeast, shortening, sugar, and salt—baked into a readily digested, almost completely assimilated white loaf that nearly everybody likes. That is what your bread-pennies pay for.

Translated into terms of bodily benefit, these wholesome ingredients provide 48% carbohydrates to supply food energy; 9.5% proteins for tissue-building and growth; 2.0% fat for energy; 2.0% minerals, including calcium, phosphorus, and some iron and even small quantities of growth-promoting vitamins B_1 and G.

Best of all, white bread combines these (and other) bodily benefits in proportions well adapted to the nutritional requirements of normal people.

Further facts about the food value of bread are presented in authoritative booklets obtainable without charge from the American Institute of Baking.

American Institute of Baking

DEPARTMENT OF NUTRITION

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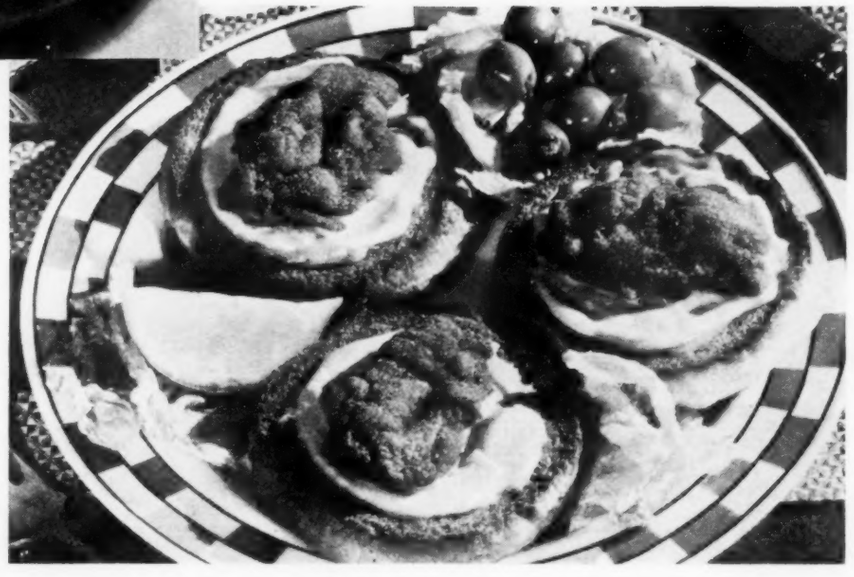
OYSTERS

The story of that strange little bivalve of the sea is presented by JOHN FASSETT EDWARDS, who also tells how temptingly they can be served



OYSTERS MICHAEL (Above)

Dice enough bread to make 4 cups, and toast it until slightly brown. Cover bottom of a greased baking dish with the bread cubes, and arrange 1 pint of oysters over them. Sprinkle with 1½ teaspoons salt and 1½ teaspoons nutmeg, and add 1 cup cream. Cover with the remaining bread, and bake in a hot oven, at 450 F., for 10 minutes.

USUALLY the oyster is regarded as a shapeless mass of tasty crustacean tissue, designed by nature to be eaten. We meet the oyster only at mealtime, and since he usually is served hot and eaten in that condition, we do not keep him around long enough to acquire much information about him. Yet one cannot but admire the rare courage of the first person ever to eat an oyster, likely raw, right out of the smashed shell. He must indeed have been hungry.

However, it happens that the oyster really is a marvelous animal, one well adapted to pursue his home-staying life under rather adverse conditions. His makeup is highly specialized, and while he may seem to be simple, he is far from that when studied with aid of the microscope.

When the young oyster, or spat, as he is technically termed, finds the instinct to attach himself to some hard surface an urge he can no longer resist, he tries to select a surface which is free of mud and slime, since these things make it impossible for him to become a fixture. He attaches himself by what is known as the left shell. The right half is on top and is the front door of his life. Here he receives all his food and part of his enemies. Inside the lower shell, which is really where the oyster lives, at its lowest part, we find what is called the mantle—a sort of outer blanket. Under the delicate mantle, we find some semicircular lips that are free at their borders. These are the gills, important parts of our friend the oyster.

There are four gills. They act as a pump for the water circulation of this bivalve; they conduct the food into the oyster's mouth; also they are reproductive organs and a nursing home for the little ones. (The American oyster has separate

FRIED OYSTERS (Above)

Drain 3 dozen oysters, and dry them between towels. Dip in seasoned crumbs, consisting of 1 cup bread crumbs, cracker crumbs or corn meal and ½ teaspoon salt and pepper. Then dip oysters in egg solution of 2 beaten eggs and 1 tablespoon water, and dip in crumbs again. Fry in deep fat until golden brown. Drain on soft paper, and serve with tartar sauce on muffins.

sexes; the European type is bisexual.) The sticky surface of the gills holds the microscopic food that forms the oyster's subsistence.

Moreover, on the edges of the gills there are tiny hairs, and these cilia constantly wave toward the inside of the shell. This causes a movement of the water about this open door, and the food-bearing fluid is drawn into the shell and into the gills, deposited on their edges, to be transported in a steady stream to the oyster's mouth. Ahead of the gills are two lips, between which is the oyster's mouth, and that leads where mouths do in human beings. There is a dark colored liver which surrounds the stomach, also a kidney.

Water, is carried into tiny tubes in the gills, and its component oxygen is drawn off into the oyster's blood. The oyster needs his oxygen just as much as we do.

Approximately in the center of this curious soft body there is a real heart that beats slowly and pumps blood throughout the oyster's body. This heart has two cylinders, one auricle and one ventricle. It is rather simpler than ours, although analogous in function.

The oyster is a confirmed mouth breather. But, inasmuch as he eats all the time and breathes when he eats, this mouth breathing habit may be excused. He cannot live long with his shell shut. The closed position is an emergency condition only.

To make the anatomy of this little creature more complicated, he has eyes that are indicated by dark, pigmented spots on the edge of the mantle. Whether or not he sees with these eyes is beyond our knowledge. But his sense of feeling is highly developed. Delicate knots of tissue connected by threads of nerve tracts make up the nervous structure of this mollusk.

All human food is originally vegetable in form. We may think of the sea as having vegetable growths only along its shores. To be sure, it is most abundant there, but it is also found in the sea, largely in the extremely minute form of a single marine vegetable smaller than the proverbial mustard seed. Small as it is, if allowed to live for a week in all its generations this one kind of vegetable growth would fill the oceans full. So, since the oyster feeds on this material, we may safely conclude that he will not go hungry, even though he is fixed to one spot.

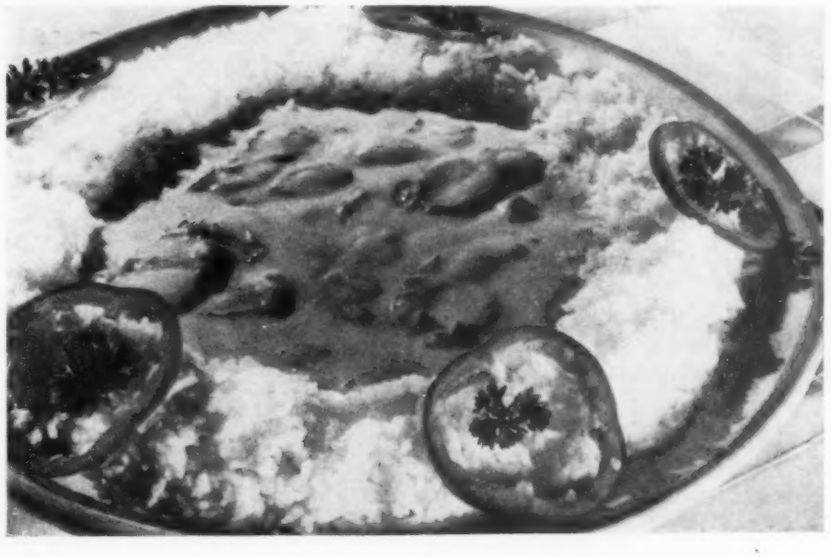
During his brief babyhood the oyster has a gay time—if he does not get eaten by the many predatory fish that enjoy his presence. For about a month, this tiny little creature swims about as freely as he likes; he uses a curious swimming attachment, during which time he is acquiring a little piece of shell on the side of his still symmetrical body. But this baby cruise is his last one, for soon he settles down into dull maturity and never moves again until some oysterman's tongs drag him loose and bring him up for us to eat.

The oyster as we see him is the descendent of a mollusk that formerly was able to move about freely throughout its life in quest of food and in avoidance of enemies. But this change to a fixed habitation seems to have taken place rather recently, comparatively speaking, when land vegetation appeared and fringed the shores of bays and estuaries, and the once free mollusk began to stay in one place to get its food.

The oyster gets lime to make its long, thick shell directly from the ocean water. It is taken up by the mantle and secreted in the form of shell. Salt water also dissolves the old shells of various sorts that are scattered about the ocean floor, which further adds to the lime supply of the water.

One of the reasons that the Chesapeake Bay region is peculiarly adapted to oyster growth is because its incoming fresh water is heavily charged with lime. This water drains a limestone watershed. This may explain why these Maryland oysters do not seem to flourish when transplanted to other regions.

The oyster has plenty of enemies that would do him grave harm. The battle of nature is a ruthless, endless spectacle. Fish eat the spat in enormous numbers; mud may smother them; currents of water may shift and bury them under debris; when young, crabs crush their shells; starfish, ray and octopus achieve great destruction of oyster life, but about the worst enemy the peaceful oyster has is a little creature called a drill. Very well named, too, for this drill bores a neat hole in the oyster's shell—when the shell is not too thick and hard—and sucks out the soft flesh from within. The boring sponge is another bad one. It makes so many holes in the oyster shell that the oyster becomes worn out with patching them, and eventually it becomes disgusted with life and



OYSTERS POULETTE

Drain 1 pint oysters, and cook 2 or 3 minutes until the edges curl. Melt 2 tablespoons butter, stir in 3 tablespoons flour blended with ½ teaspoon salt, pepper and ¼ teaspoon nutmeg. Add 1½ cups milk, ¼ cup cream. Stir over a low fire until thick. Cook for 1 minute. Beat 2 egg yolks, add a little of the hot sauce to them, and then stir this mixture into the sauce. Add oysters and 2 tablespoons of lemon juice, and reheat. Serve on a platter with a border of 2 cups of rice. Garnish with green pepper or pimiento and parsley.

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America's Favorites

dies. Or else sponges may locate on the poor oyster and kill it.

But nature is indeed marvelous in its balances. In Maryland waters, in particular, a full grown healthy oyster is capable of producing 16 million eggs in a single season. During the breeding season in oyster-bearing areas the ocean is sometimes a whirling mass of oyster embryos that fairly cloud the water. It is said that the average oyster lives to be about 10 years old if unmolested, during which time it grows about an inch a year. But often there are found huge oysters that, judging by their size, must have lived as long as fifty years. I have seen oyster shells in the Philippines that were more than 2 feet long. In cool climates oysters grow only in summer; in winter they seem to hibernate.

Oysters are rich in food value. They furnish minerals, iodine, protein and vitamins to the diet in appreciable amounts. Moreover, they may be eaten any month of the year, since modern transportation and refrigeration precludes the likelihood of rapid spoilage or infection. It is also an economical food, for the oysters are entirely edible. When you buy a quart of oysters, you buy a quart of food.

Here are a few simple ways to prepare them for the table:

Baked Oysters with Cheese

1 pint oysters
2 tablespoons butter
1 cup cream
1 teaspoon anchovy extract
¼ teaspoon salt
¼ teaspoon pepper
Crumbs
Grated snappy cheese

Put butter into saucepan with cream, and stir over fire until hot; then add anchovy extract, salt and pepper. Put some of this mixture into a small buttered baking dish and lay oysters on it; sprinkle it with crumbs and lightly with the snappy cheese. Repeat until oysters are used. Pour remainder of sauce over the top, sprinkle with bread crumbs and cheese. Bake in brisk oven until nicely browned.

Oyster Stuffing for Turkey or Goose

1 pint oysters
1½ cup cracker crumbs
¼ cup butter
1 tablespoon chopped parsley
2 teaspoons lemon juice
Salt and pepper

Mix the crumbs, butter, parsley, lemon juice and seasoning, and roll the oysters in the mixture so that each is well covered. Stuff all into the turkey or goose. If desired, the oysters may be chopped coarsely. For a large fowl, it will be necessary to increase this recipe, using the same proportions, in order to obtain sufficient stuffing.

Oyster Mold

1 pint oysters
4 tablespoons horseradish
1 tablespoon gelatin softened in
4 tablespoons water
¼ teaspoon salt
3 tablespoons spiced vinegar
1 tablespoon white wine
1 teaspoon sugar
Water to make 1 pint of gelatin mold

In a saucepan, place oysters and 2 tablespoons horseradish. Heat, stirring constantly until oysters are plump and edges curl. Drain the hot liquor into the softened gelatin. Add salt, stir until dissolved. Then add all seasonings and plumped oysters. Pour into a mold, and allow to jell. This salad is attractive when garnished with strips of pimiento and slices of stuffed olives. Serve cold.

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Sauce for Raw Oysters

2 teaspoons tarragon vinegar
2 tablespoons olive oil
½ teaspoon Worcestershire sauce
1 tablespoon grated onion
Juice of ½ lemon
½ teaspoon Tabasco sauce
2 teaspoons horseradish
2 teaspoons sugar
¼ teaspoon salt

Stir ingredients well, chill and serve on cocktail oysters. Garnish with paprika.

Oyster Pie

6 tablespoons butter
1 cup sliced mushrooms
7 tablespoons flour
1¼ teaspoons salt
¼ teaspoon nutmeg
¼ teaspoon celery salt
Pepper
3½ cups milk
1 pint oysters
Pastry (1½ cups flour, ½ cup shortening, ½ teaspoon salt, water to moisten)

Melt the butter, add mushrooms, and cook 2 minutes. Stir in flour and seasonings, and when well blended add milk. Stir over low fire until smooth and thick. Add drained oysters, and pour into individual baking dishes or into a large casserole. Cover with pastry, make two or three slits in pastry, and bake in a hot oven, 450 F., about 10 minutes or until brown.

Oyster Casino

1 pint oysters
½ cup finely minced green pepper
½ cup finely minced bacon
1 tablespoon lemon juice
Pepper

Drain oysters and arrange on a greased ovenproof platter. Sprinkle with green pepper, minced bacon, lemon juice and pepper. Bake in a hot oven, 450 F., about 10 minutes.

Oyster Benedict

6 thin slices boiled ham
1 pint oysters
3 English muffins, or
6 slices bread
Hollandaise sauce
6 strips pimiento

Sauté ham lightly in its own fat, and remove from frying pan. Drain oysters, and sauté 1 minute in ham fat. Split muffins, and toast on both sides. Arrange one slice of ham and four oysters on each split muffin. Cover with Hollandaise sauce, and garnish with pimiento.

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QUESTIONS AND *Answers*

Fallen Arches

To the Editor:—Can a fallen anterior arch be corrected? I understand that the old steel arch is no longer recommended, since it is believed to hold the foot as in a splint and thus prevent its exercise. Would a foot with the above defects be swollen?

S. C., Massachusetts.

Answer.—It is impossible in a reply of this sort to outline all the possible conditions that may cause these symptoms.

While there is some question as to whether there is an anterior arch in the foot, it is not to be disputed that painful symptoms are frequently observed in the anterior part of the foot.

If the toes are fixed in an overextended position, the ends [heads] of the metatarsal bones are prominent on the sole of the foot. Painful calluses may then form beneath these bones. Sometimes a traumatic arthritis exists in the joints between the toes and the metatarsal bones. This condition may be accompanied by swelling in the region of these joints, and the joints are tender or sore on pressure.

It is often necessary to place in the shoe some form of pad or support that will elevate the heads of the second, third and fourth metatarsals to remove from them the strain of weight bearing and to encourage bending of the toes in front of these bones. Baking and massage and exercises to improve the flexibility and strength of the foot and the toes are often valuable.

If there is any pain or swelling of the foot, it probably is necessary to consult an orthopedic surgeon.

School Lunch Period

To the Editor:—We have in our school a 20 minute lunch period, which I contend is not nearly long enough for a child to eat a lunch without injuring his health. What is your opinion?

L. S., Pennsylvania.

Answer.—In answering this question, it is assumed that the writer refers to grade school children. If only 20 minutes are allowed from the time they leave the classroom until they return, then, it may be safely assumed that not more than 12 to 15 minutes are actually involved in the process of eating food. For some children, this is ample for that process alone, but for others it is entirely inadequate. They must either eat too little food or gulp it hurriedly and under tension.

This, however, is not the most important consideration. There is invariably and inevitably a sense of tension and rush which, to a greater or less degree, affects every child under such circumstances. From the point of view of the physiology of the child, such a condition results in overstimulation of the sympathetic nervous equipment, with the result that there are varying degrees of gastrointestinal stasis and inhibition of flow of digestive secretions. This means that food material not only does not pass through the digestive tract at a normal rate but is not digested at a normal rate and may even undergo fermentation, so that while the child may have consumed enough food, he does not digest and absorb it in sufficient quantities. This train of events

H. Armstrong Roberts

If the toes are fixed in an overextended position, the ends of the metatarsal bones are prominent on the sole of the foot.

seldom results in any specific disease. It does frequently result in lack of attention, drowsiness, irregular elimination or too little food consumption—all of which combine to make a highly undesirable state.

The Board of Education obviously has not considered any of these indefinite but nevertheless potent factors. There may be other considerations not indicated in the inquiry that might, in emergency, offset these undesirable results, but certainly there is absolutely no justification for contending that a 20 minute lunch period is sufficient.

The provision of an adequate amount of time for the school lunch, however, does not necessarily insure that lunch will be eaten in a leisurely fashion, because all too frequently pupils rush through their lunches because they wish to play or to study for their next classes.

There is no question that in adults hurried eating accounts for much indigestion. In adults also it is highly desirable that there be a short period of rest and relaxation before eating and a period of rest afterward.

Pulse Rate and Climate

To the Editor:—Is the adult human pulse rate uniform throughout the world? Does that of the Eskimo vary from that of the desert Bedouin near the equator?

F. C. M., Pennsylvania.

Answer.—The adult human pulse rate is considerably more variable than many persons think. Usually one hears or reads that the pulse rate in a normal man is about 70 beats of the heart per minute at rest and that there is an increase during exertion. In fact, it is often stated that the pulse rate is one of the so-called "physiologic constants" and the impression is left that all persons have nearly identical heart rates, except those suffering from circulatory disease.

There have not been many carefully controlled experiments on the measurement of the pulse under comparable conditions in the far North or the tropics. There are reports of studies on and by travelers that the heart rate of a European is slower in the cold Arctic regions and faster in the desert or tropic regions. One would certainly expect some relatively slight differences in the average

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heart rate of Eskimos and Bedouins, insofar as their conditions of life and general metabolism are different. There have been rather careful experimental studies showing that the heart rate does increase on moving to hot arid regions but that after acclimation it returns to normal.

Extensive and exact studies of the measurement of the heart rate of persons in New York City have shown, however, that there is a wide range over which that of apparently normal individuals may be spread. These studies have shown that constant measurement of the heart rate of a healthy person will show pulse rates ranging from 55 to 120 beats per minute in a normal twenty-four hour cycle. There was considerable variation of average rates on different days and at different seasons. This variation in supposedly normal and constant rates in healthy people indicates how cautious we must be in interpreting other less exact observations.

All that one can say is that a certain difference in the average heart rate of Arctic dwellers and those living in the tropics is to be expected. Man is one animal which keeps a relatively constant body temperature, despite environmental variations in temperature; and, since man also keeps a relatively constant metabolic balance, one would expect only relatively slight average changes.

Use of Liniments

To the Editor:—Are liniments considered as important in medical practice today as they were thirty years ago? Do they have any healing qualities when applied to sprains? Do they have any penetrating qualities beneath the skin or are they beneficial on the surface only?

H. K. S., Virginia.

Answer.—Liniments are not as important today to the medical world as they were thirty years ago. They are still used frequently for sore and stiff muscles and stiff joints, but the main benefit is due to the rubbing. Their effect is due principally to their volatility, which causes evaporation, cooling, moderate irritation and hyperemia [excess of blood]. They have little, if any, healing qualities when applied to sprains, although they may relieve the pain. The best treatment for sprains is complete rest for the injured part. Some liniments and drugs are absorbed through the skin, but the local benefit comes only from their surface effects.

Discoloration About the Eye

To the Editor:—I have suffered an injury to my left eye. The flesh surrounding the eye was painfully swollen for a period of three or four weeks, leaving the exceedingly dark discoloration of the argyrol, the silver compound used in its treatment. I did nothing about this, thinking that the discoloration would eventually disappear. After a year's time, the darkness remains. Is there any kind of medical treatment that can be used to counteract the effect of this argyrol?

V. S., Illinois.

Answer.—The argyrol which entered the soft parts about the eyelids turned black on contact with daylight. The discoloration of the skin of the left eyelid and the region surrounding it was most likely caused by the deposit of granules of silver. The particles of silver now a part of the skin and adjacent structures are so small that they cannot be removed and must be dissolved. This is difficult, although under certain favorable conditions it can be done.

A competent physician must be consulted who may need to inject a special silver dissolving solution beneath the skin. There are many difficulties connected with the use of the solution, and for that reason special treatment is necessary. A few drops of the solution is injected beneath the skin in the discolored area. The number and frequency of the treatments depend on the amount of absorption and degree of reaction which follows each injection. By necessary and possibly prolonged treatment the discoloration may be markedly lessened.

Argyrol, or any other silver solution, should be used only under the constant supervision of a physician. Silver stains of eyeballs and eyelids are frequently seen.

Bones and Thyroid Hormone

To the Editor:—Is it true that a deficiency of thyroxin [iodine in the thyroid secretion] will lead to the disintegration of the cartilage at the base of the tongue and of the breast bone? Will it ultimately lead to softening of the bone tissue?

J. D., Illinois.

Answer.—The development of cartilage and bone during infancy, childhood and adolescence depends on an adequate supply of the hormone named thyroxin produced by the thyroid gland. If the supply of this hormone is below the proper amount for the maintenance of health in a number of ways, then it will be found that the development of adult type of bone as well as the growth in length of the bone is handicapped. This may lead to dwarfism, to delayed achievement of adult stature or to certain other disorders, as a consequence of which there may be a separation of some of the growing ends of the bones under the stress of violent exercise.

A deficiency of the thyroid hormone is not a recognized cause of any disintegration of cartilage or bone. The decalcification or softening of bone has been observed to follow the presence of an excess of this hormone, such as may be produced by the types of goiter that are accompanied by overactivity of the thyroid gland in secreting this thyroxin. Under long continued conditions of this kind, such large amounts of calcium may be removed from the bone that the bones are less dense when viewed by the x-ray and may be deformed under the weight of the body. This rather uncommon condition is usually prevented by appropriate operative treatment for goiter.

Scar Formation

To the Editor:—Is there any difference in the scar tissue formed after a surgical operation and that formed by injections for hernia?

D. W., Pennsylvania.

Answer.—The microscopic appearance of the scar produced by injections for hernia and that produced by an operation is relatively the same, except that the scar is usually denser and more bulky when injections are made. However, when the hernia is treated by injection, the scar is beneath the skin and not visible. The scar produced by an incision extends throughout the depth of the wound and naturally is visible on the skin. In neither case should any symptoms result from the scar itself.

Mirror Reading

To the Editor:—Can you give me some information on the training for children who mirror read?

E. R., Texas.

Answer.—Reversal tendencies in reading are not uncommon, particularly in first grade children who are just learning to read. These young children have not acquired a systematic habit of reading from left to right. When they look at physical objects and at pictures, they fixate their eyes more or less at random on different parts of the picture or the object. They naturally carry over into reading this random kind of visual fixation. So they easily fall into reversals. They begin at the wrong end of words and even of sentences. *On* is read as *no; saw* is read as *was; Tabby is a cat* is read as *Cat a is Tabby.*

True mirror reading is similar to mirror writing, for the child may find it more natural to read from the right to the left, rather than from the left to the right. He may even read the mirror image of words more readily. If this "mirror reading" tendency is strong, a specialist should be consulted and remedial instruction undertaken. If the child is suffering from visual defects, these should by all means be corrected.

The more common reversal errors in reading, however, can be much reduced by proper instruction and by a few simple devices as follows:

(1) By means of a pointer the teacher can guide the eye movements of the child from left to right. It is always well to remember that training to overcome reversal tendencies consists in setting up correct habits of eye movement.

(2) The child may be permitted, or even encouraged, to use his own finger as a pointer. Let him begin at the beginning of the word, and let his finger glide from left to right as he reads. Let him spell over the word phonetically if necessary. When he has acquired a left to right habit, he can shed the finger crutch.

(3) Correlate writing with reading. This should not be overdone, but the pupil may trace words seen through tissue paper or may copy words from models with consistent emphasis on the left to right direction.

(4) Let the child make use of a word-picture dictionary, or let him make a dictionary of his own with the teacher's help. Such a dictionary presents a picture of the object at the left and the corresponding word for that object at the right. This relationship encourages the child to move his eyes from left to right.

(5) If the child is strongly left handed or shows marked confusion between left and right, some effort should be made to establish dominance of one hand. If the child is strongly left handed, there should be no extreme measures taken to make him right handed.

In severe cases of reading reversal the advice of a specially qualified person should be consulted.

Facial Packs

To the Editor:—Will you inform me on the main facts about facial packs. I would like to know their value and what benefit, if any, they are to the skin.

S. W., New Jersey.

Answer.—Facial packs are cosmetic products consisting essentially of hydrated, or watered, clays. Under proper conditions, many clays can absorb water up to eight times their volume. Clay swollen with water is thus administered as the pack.

When this hydrated clay, or pack, is applied to the skin in the same manner as face cream, the water at once begins to evaporate. As the pack dries, the clay particles are drawn together, causing strong tension on the skin. The degree of tension effected depends on the thickness of the pack as applied and the degree of initial hydration. The effect is to draw fluid into the upper layers of the skin. If an exceedingly effective pack is applied over blush areas of the face, the skin capillaries are engorged, giving the effect of rouging. Strenuous packs over these areas have been known to rupture skin capillaries.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

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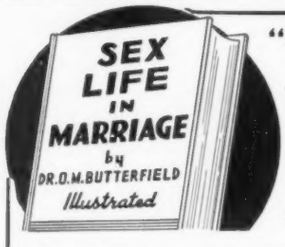

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UNBIDDEN GUESTS (Continued from page 30)

the motorist in the South. He drew up before a country store. Sitting on a box out front was a woe begone native howling like a hound dog baying at the moon.

"What's the matter with him?" asked the stranger.

"Got hookworm," replied a bystander.

"But," protested the traveler, "that doesn't cause pain."

"Yeah," said the bystander, "but he's settin' on a tack and's too lazy to get up."

Persons who habitually read the inside and back pages of their newspapers occasionally see items about epidemics of another roundworm parasite, Trichinella spiralis. Man acquires it by eating raw or poorly cooked pork from a hog that picked up the worm by eating an infected rat.

Trichinella differs widely from the other parasites I have mentioned. In the first place, the female gives birth to a whole flock of live and kicking little worms. And secondly, they give the host more trouble in his muscles than in the intestine. After a brief love affair, the male Trichinella dies and is swept out of the intestine. The female seeks seclusion in the lymph spaces of the small intestine to give birth to about 1,500 little worms. The tiny worms are then distributed all over the body, especially throughout the muscles, where they form small cysts that cause pains similar to those of rheumatism. Here they lie, awaiting the day that the victim is eaten by another animal, so they can mature and start all over again. The unfortunate larvae that infest man are doomed, even though they cause a lot of pain, because man is seldom devoured by another mammal. As time goes on, Nature seeks to repair the damage done by the larvae and lays down a deposit of lime salts about the worm. Thus, it meets its end in an alabaster tomb.

Thirty years ago every traveling medicine show carried a specimen of a tapeworm preserved in alcohol. Removing the tapeworm was the crowning achievement of all quacks. The "professor" expanded on the symptoms of tapeworms and told customers just what they might expect if they took his medicine. The tapeworm has only one head—about the size of a pinhead—but many thousand segments. The heads of both the beef tapeworm and the pork tapeworm are about one fifteenth of an inch long. They have suckers arranged around the head for fastening to the intestine. While these heads are small, the bodies are noble in their proportions. When full grown they may be 20 or 30 feet long and consist of several thousand segments.

Tapeworms absorb their food from the intestine of the victim. The old gag about the man having to feed his tapeworm before he fed himself is no joke. The parasite always gets at the food first. Each segment of the tapeworm is really just a self fertilizing egg factory, both sexes being found in a segment.

When the eggs pass out of the body of the host, they must go through another host before they may infect man. One species must find a pig and the other a cow. The little cysts formed in these intermediate hosts are swallowed by man and become the foundationhead of the mighty worm. Cooking the meat well kills the cysts.

Now that you know all about our common intestinal parasites, don't develop a phobia about them. If you live right, your chance of being killed by any of our "home grown varieties" is just about the same as your chances of being struck by lightning. Down South, where the hookworm abounds, the government and other agencies have adopted firm measures to control the pest. The increasing use of shoes by denizens of the hookworm belt has been another blow to the parasite. By rigid inspection, the federal and state governments have almost stamped out tapeworm and trichinella infestations. The spread of the doctrine of cooking meat well has also caused much improvement.

Will 1939 Show Improvement?

December tells the story. Up to the first of December 1939, the number of deaths from traffic casualties was about even with that of 1938. If the annual toll of lives is to be less in 1939 than it was in 1938, there must be fewer accidents in December. In 1938, 3,430 persons died in December traffic mishaps.

BOOKS ON HEALTH

The Nation's Health

By the Interdepartmental Committee to Coordinate Health and Welfare Activities. Paper. Price, 20 cents. Pp. 116. Washington, D. C.: Government Printing Office, 1939.

This publication, based on the Interdepartmental Committee's survey and the subsequent actions of the Technical Committee on Medical Care, is definitely propaganda for the adoption of the Wagner bill or some subsequent act of the same character. Present medical conditions are indicted, and the proposed legislation offered as a cure. The indictment directed toward the medical profession can be shown to be unreliable, exaggerated and, in some places, absolutely untruthful. The proposed cure, far from being a consistent health program, is, even in its desirable features, confused and overlapping. At many points it is little more than a leap in the dark, and its most significant section—that advocating sickness insurance—offers a largely discredited remedy. We are told that the National Health Conference was composed of "spokesmen for consumers." An examination of the list of participants reveals few who could be brought within the scope of sickness insurance. The majority were welfare workers and government officials—or almost professional propagandists, whose credentials as "spokesmen for consumers" would be rather difficult to validate.

Some exaggerated statements that are again repeated, in spite of the fact that they have been discredited, are:

"Seventeen million people live in 1,338 American counties where rich and poor alike suffer from inadequacy in provisions for medical care.

". . . one-third of the Nation puts up with inadequate medical service or none at all.

"That the gross sickness and mortality rates for the poor in our large cities are as high today as they were for the Nation as a whole, half a century ago."

The latter statement, if true, means that the poor have at least attained the average of the "nation as a whole, half a century ago," when there was less than 30 per cent of the population in the Death Registration Area and 25 years before there was a Birth Registration Area.

". . . in the 22 years for which we have records, there has been only a slight decline in the maternal mortality rate of the United States."

The truth is that for the states which have been continuously a part of the Birth Registration Area—the only ones concerning which the facts are known over a period of years—there has been a steady decline of about 1 per cent a year.

"Some 1,300 counties have no registered general hospitals; another 519 contain small proprietary institutions only."

No reference is made to the fact that county boundaries do not prevent the people in most of these counties from obtaining adequate hospital care.

". . . 40 million people . . . may be expected to experience no less than 8 million cases of illness disabling for a week or more . . . in a fourth of these illnesses, under our present inadequate provisions, the patients will receive no medical care whatsoever."

This statement is such a grotesque exaggeration as to require little attention.

Perhaps the reason that there was no reply to the question, "Are there any members of this Conference who challenge the statements with reference to needs?" was that those who were able to, and who in some

Courtesy The New Yorker

"You're enjoying this—I can tell."

cases did, challenge these statements did not receive such consideration as would encourage them to participate further.

We are assured that health insurance will "bring adequate medical care within the reach of everybody" and "protect patients and their families against the hazards of unemployment and wage loss due to sickness. World experience with health insurance goes to show that these safeguards can be secured to the mutual advantage of all concerned, with medical care fully entrusted to medical control, and with free choice on the part of the doctor and on the part of the patient." No evidence is offered to substantiate this statement regarding "world experience." There are specific statements as to the number of deaths due to tuberculosis, pneumonia, cancer and other diseases that could be prevented, but no medical authority is quoted concerning this claim.

The remaining pages are given up to excerpts from the addresses at the conference, carefully selected to back up the general program. Nowhere is there any recognition of the existence of a nation-wide, fairly well coordinated program of medical care that has continuously reduced morbidity and mortality at a more rapid rate than sickness insurance has ever done or that the proposed program would disrupt some of the most valuable features of this previously successful program.

A. M. Simons.

Old Rocky, the World's First Billionaire

By Oliver Allstorm. Cloth. Price, $2. Pp. 186. Chicago: M. A. Donohue & Co., 1939.

This book is a tribute to John D. Rockefeller, the world's first billionaire, in celebration of the centennial year of his birth, which occurred in 1839. It is written in modern free verse and reviews the years during which he lived, presenting a panorama of historical, political, financial, industrial, literary, social and medical events during his lifetime. The theme of the book centers around Mr. Rockefeller's enormous and phenomenal accumulation of wealth, with emphasis on the humanitarian and philanthropic uses which he made of his money.

W. W. Bauer, M.D.

Youth in European Labor Camps

By Kenneth Holland. Price, $2.50. Pp. 303. Washington, D. C.: American Council on Education, 1939.

This book is based on seven years' study through visitation and participation of labor camps in the United States, Germany (both before Hitler and after), Denmark, Sweden, England, Wales, Switzerland, Austria, Czechoslovakia and Holland. A chapter is devoted to each of these countries. There are numerous photographs, often of the candid type, which clearly show the work, the living quarters, the recreation and the type of personnel in the camps. In all these countries, there seems little difference in the appearance of the boys who man these camps, but there is considerable variance in their leadership and their style of programs. Since totalitarianism has taken over the program, the camps are being operated for the benefit of the state instead of for the benefit of unemployed youth.

In European camps women are often found as well as men, and they may even be working side by side in the fields with the men. The European camps show much greater evidence of regimentation. Guards armed with shovels and marching columns with shovels on shoulders are characteristic. Educational programs receive proportionately less emphasis in totalitarian states than in the camps of the Scandinavian countries, England and the United States. In the beginning the fundamental philosophy of the camps in the several countries was the same, namely, to provide work, physical training, vocational training, encouragement and a small amount of income to unemployed young men. These functions seem to remain uppermost in the camp programs, except where the camps have been visualized as labor battalions and propaganda centers for dictatorship.

The book is liberally documented, attractively printed but not indexed.

W. W. B.

Keep Fit and Like It

By Dudley B. Reed, M.D. Cloth. Price, $2.50. Pp. 325. New York: Whittlesey House, 1939.

This is the sanest and the most readable book on exercise and sports for health and recreation yet available. Most of the books that have attained popularity in this field have been written by faddists who would prevent or cure all human ills by exercise. Others have been dull and uninteresting. This exception will be welcomed by physicians and laymen alike.

To the writing of this book the author brings a rare background of good judgment, sound training and years of experience in the supervision of physical education, athletics and health service at the University of Chicago. Combined with this he writes with delightful humor and a contagious enthusiasm for the many sports which he enjoys.

A brief discussion of the physiology and psychology of exercise is followed by a consideration of how to choose a recreation, when and how much to exercise and an informal chat about those sports in which most individuals can engage. Hiking, skating, mountain climbing, horse back riding, golf, tennis, badminton, bowling, sailing and others are discussed in a manner that gives to the reader both an understanding of and an enthusiasm for the sport best fitted to his particular needs and information as to how to get the most benefit, physically and mentally, from it.

H. S. Diehl, M.D.

Rehearsal for Safety

By Fannie Venable Cannon. Price, $1. Pp. 131. New York: E. P. Dutton & Co., 1939.

This little book offers eight plays, each dealing primarily with a special phase of safety education. One deals with wound infections including tetanus, another with fire hazards, another with guns and one with hazards in the kitchen. One play shows the accidents due to little things left about for people to trip over, one with the hazards in batted and thrown balls and one with getting lost. Other topics are mentioned incidentally to the main themes of the several plays.

The plays are simple, yet adequate and require few characters. The scenery can be suggested in the Elizabethan manner now so popular, or it can be set as completely as desired. The author uses the dramatic medium because through it the visualization of hazards becomes possible, thus fixing them more vividly in the minds of the children, especially since they participate in the portrayals.

W. W. B.

Nursing in Sickness and in Health

By Harriet Frost, R.N. Price, $2. Pp. 217. New York: The Macmillan Company, 1939.

This book emphasizes primarily the social aspects of nursing, assuming the training of the nurse in her professional and technical capacities to be more adequately provided for than her training in social assurance. The book is in two parts, of which the first concerns the individual, the family and the community in sickness and in health.

Chapters in this part are devoted to the transition of nursing from a neighborly service to a profession. Chapters on student health include some valuable and pertinent thoughts about observing the patient, aside from his medical history and hospital records, and a sympathetic interpretation of the patient's attitude and reactions toward his strange situation in the hospital. There is a discussion of neglected stages of illness, namely, the incipient, the convalescent and the chronic.

A chapter on social service includes a clever and effective diagram of relationships as they develop between public health nursing and social service. This diagram brings out the fact that bedside care is a field peculiarly that of the nurse, and material relief peculiarly that of the social worker, while other phases of public health nursing and social service overlap in part.

Subsequent chapters are devoted to the patient in the clinic, the patient in the home and the nurse's relationship to the community. An interesting feature of presentation is the frequent use of at least one "family study" report actually made by student nurses of actual situations met in the ward, the clinic and the dispensary.

Part II of the book considers the social aspect of nursing in the curriculum and the administrative problems growing out of these considerations.

The book is extensively documented but largely relies on nonmedical sources, except in health education. The book should be useful for reference and for assignments for collateral reading in nurses' training courses, for staff education and postgraduate instruction, including advanced training.

W. W. B.

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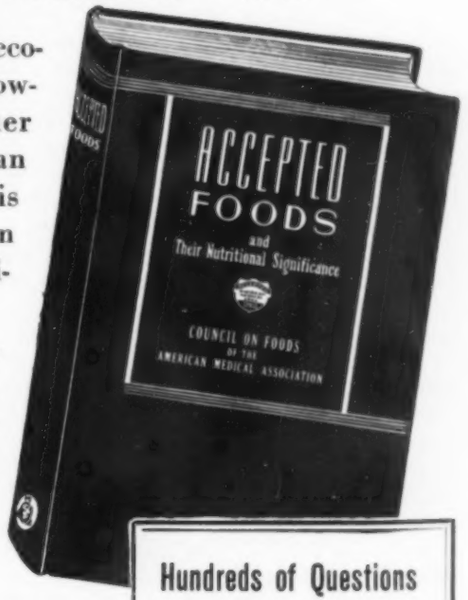

Nutritionists, dietitians, home economics teachers, mothers of growing children and many other persons interested in human nutrition can profit from this new book by the Council on Foods of the American Medical Association.

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So You're Going to Stop Smoking!

By J. C. Furnas. Cloth. Price, $1.25. Pp. 97. New York: Simon and Schuster, Inc., 1939.

This highly entertaining account of the experience of the author and of a large number of other intelligent laymen in connection with the smoking habit and its cessation dismisses rather lightly the reasons why people smoke. "Take a mild and by no means typical drug addiction, reinforce it tremendously with reflexes clustering around the mechanical ritual of smoking, add a dash-light for cigarette smokers, heavy for pipe and cigar smokers—of flavor appreciation, and you have what is offhandedly referred to as tobacco hunger." Reasons for stopping smoking are considered with special reference to the idle whim or ascetic impulse. Pearl's assertion that the life expectancy of smokers is shorter than that of abstainers is naïvely accepted, but other and better founded medical objections to smoking, by particular patients, are ignored or dismissed as unproved.

Methods of stopping smoking are considered at some length and with special emphasis on psychologic factors. Unexplained sudden loss of the desire to smoke is described as "the Best Way"; but no means of inducing it are given. "Have a doctor scare the lights out of you about smoking" is given as the "Next Best Way"; but it is admitted that most doctors are not so disposed and, if they are, may lack the confidence of the patient, especially after he has read this book. Rationing, by setting a limited daily quota, or progressive tapering off in the amount of smoking are violently condemned as ineffectual and painful. The author advises procuring psychic or physical obstacles to smoking, such as external obstacles to obtaining a smoke, financial rewards or punishments as inducements to refrain and building up social pressure against backsliding.

A cold, an operation under ether or a bout of seasickness, which temporarily lessen the craving for a smoke, may aid in the beginning. Minor tricks in supporting the abstaining addict, such as ending a meal with citrus fruits or salad, refraining from rich cheese or garlic and the substitution of odd nibbling and the chewing of peanuts or gum are mentioned. Washing out the mouth with a weak solution of silver nitrate is passed over as a good idea, because it makes cigarets taste terrible, with a recommendation to get a prescription from your doctor. Direct application of the solution to the back of the throat with a swab is not mentioned. The use of an empty cigaret holder, false cigarets or other props as means of occupying the hands, similar to the use of knitting or crocheting by women, is described.

The entire book handles lightly and amusingly, with an assumption of superficiality that belies the extensive investigation that must have preceded its publication, a problem which is generally a minor matter of social usage, but which may become, at times, an important concern in medical management. For the physician, especially if he smokes himself, and for his patients who are facing the same problem, this essay may be recommended as pleasant entertainment and conservative instruction, but it is of little aid in either reinforcing or facilitating the recommendation to cease smoking.

EMIL BOGEN, M.D.

Lacrosse
Field Hockey Guide
Softball, Volley Ball
Soccer, Speedball, Field Ball
Official Sports Library for Women

National Section on Women's Athletics. Paper. Price, 25 cents each. New York: A. S. Barnes & Co., 1939.

The official women's rules for each of these sports are given in pamphlets as grouped in the title of this review. The booklets are all concise, complete and easily interpreted. For each sport, a large chart with condensed rules is included which can be taken out and displayed for the players' benefit. In elaborating the rules, various technics are employed, such as questions and answers, guides for attack and defense tactics and the simple explanation of fundamental technics used by successful teams and coaches. In addition, notes on how to umpire fairly and effectively are included for softball, volley ball and field hockey. Where a certain procedure is difficult to describe in words, profuse illustrations accompany the text. Each booklet is made up of several short descriptive articles and the list of official rules for those sports.

SIBYL WINSER JOHNSTON.

Improvised Equipment in the Home Care of the Sick

By Lyla M. Olson, R.N. Third Edition. Cloth. Price, $1.50. Pp. 264. Illustrated. Philadelphia: W. B. Saunders Company, 1939.

This is a pocket size volume consisting mainly of sketches and brief explanatory notes showing improvised equipment useful in home nursing and care of the sick. The line drawings are clear, and the accompanying explanatory matter is concise and easily understood. Every conceivable need in home nursing can be made with the aid of this book. Some of the ideas do not pertain primarily to nursing but constitute useful suggestions for meeting ordinary household emergencies. There is a chapter on substitutes for woven materials, indicating the uses of various kinds of paper, cellucotton and similar types of materials. Refrigeration without ice forms the subject of another chapter. Various forms of restraint are described, as are improvised shower baths, sterilizers, delivery room setups, ventilation devices, stretchers, splints, bandages, tourniquets, invalid walkers, incubators, inhalation apparatus, fireless cookers, hot wet and dry packs, emergency first aid kits, various uses of Cellophane and numerous other apparatus, equipment and methods.

Improvised modes for transporting patients are shown. The book closes with suggestions for demonstration playlets and exhibits on improvised equipment. Its small size, reasonable price, comprehensiveness and clarity render it a useful book in any home or around the camp.

W. W. B.

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Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the addresses where the publishers may be reached:

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E. P. Dutton & Co., 300 Fourth Ave., New York City.

The Macmillan Company, 60 Fifth Ave., New York City.

Simon and Schuster, Inc., 386 Fourth Ave., New York City.

A. S. Barnes & Co., 67 W. 44th St., New York City.

W. B. Saunders Company, West Washington Square, Philadelphia.

What It Means to Be a Doctor

By Dwight Anderson. Cloth. Price, $1. Pp. 96. New York: Public Relations Bureau of the Medical Society of the State of New York, 1939.

This is the narrative of a fictitious individual who is imbued early in life with the desire to become a physician. How he gets to be a doctor, what his experiences are in medical school, as an intern, in private practice and in organized medicine are set forth in an interesting manner. The last chapter deals with "The Doctor of Tomorrow" and sets forth the influences which threaten the integrity of medical practice.

W. W. B.

The Health Insurance Doctor

By Barbara N. Armstrong. Cloth. Price, $3. Pp. 264. Princeton, N. J.: Princeton University Press.

The author of this book served as consultant to the Committee on Economic Security in 1934 and helped to develop our old age insurance scheme. For seven years, until 1926, she taught in the economics and law departments of the University of California. She was formerly executive secretary of the California Social Insurance Commission, and for more than twenty years she campaigned vigorously for health insurance in California. Obviously, therefore, what she writes must be considered from the point of view of advocate rather than of unbiased observer.

The volume provides a great deal of exact information regarding the functioning of health insurance in England, Denmark and France. Since she was careful to interview all of those who worked for the government under the government plans and made little effort to find what opposition existed, her book does not give a fair picture of the situation.

It is her conclusion that there is no real desire in Great Britain today to provide for any persons but the well-to-do an unorganzed medical service arranged for by individual contract between doctor and patient. It is also clear from this study that Great Britain, Denmark and France have not yet developed anything resembling medical service for all the people. Denmark approaches more nearly to such a service. Great Britain provides a general practitioner service covering only the worker. The French system does not provide any actual service, either medical or institutional. All three systems have done their utmost to preserve the doctor-patient relationship.

Morris Fishbein, M.D.

Teaching Nutrition in Biology

By N. Eldred Bingham, Ph.D. Cloth. Price, $1.85. Pp. 117. Illustrated. New York: Teachers College, Columbia University, 1939.

This book is a monograph setting forth the results of an experimental investigation of high school biology pupils in their study of the relation of food to physical well-being. It is a detailed description of the investigaton, the preparation of the educational experiences by steps, general teaching suggestions, organization for class periods, activities, assignments, bibliographic references, questions and problems. A chapter is devoted to tests for measurement of information and advertisement interpretation. The data derived from the experiments are

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reported at length and so are teacher reactions. The summary of the investigation indicates that adolescents are interested in the experimental approach to the study of nutrition and that laboratory studies are essential. The reference materials, texts and illustrative material for use in this kind of a unit are as yet relatively inaccessible. Pupils expressed the opinion "that this study has more connection between their daily lives than any other phase of the curriculum." The final summary and conclusion is, "This study has shown how materials of vital importance to boys and girls can be so organized and taught that they function in their daily lives. It seems that other problems closely related to human welfare, such as personal hygiene, safety, control of disease, sex, recreation and psychology, might yield fruitful results if studied somewhat after the pattern used in this investigation."

To teachers, supervisors and principals confronted with the problem of how to teach health, this book should offer valuable suggestions and much food for thought.

W. W. B.

Population Race and Eugenics

By Morris Siegel, M.D. Cloth. Price, 83. Pp. 206. Published by The Author, 546 Barton Street, E. Hamilton, Ontario, Canada, 1939.

This book gives evidence of wide but uncritical reading, poor selection of data, confused organization, inconsistency, credulity and naïveté. It is a plea for better "eugenics," but I lay it down with a sense of frustration. It leaves no definite impression as to what the author really wishes to recommend. He seems to favor sterilization of the unfit but only when the "eugenic" necessity can be proved, and he seems to have no clear idea of what constitutes proof, leaning finally on such a weak support as an exhortation that we must have confidence in specialists in such matters, though he has previously lamented the fact that there are no specialists, that there seems no demand for any, and probably a bright young man could hardly be expected to take up eugenics as a life interest under the circumstances. He thinks the school physician should concern himself with eugenics but deplores the inadequate training of this official. He wants the birth certification to include the medical history of the parents. Altogether, the confusion of thought which is achieved in this book suggests that one who chooses to omit it from his reading will not suffer.

W. W. B.

Textbook of Applied Microbiology and Pathology

By Thurman B. Rice, M.D. Second edition. Cloth. Price, $2.50. Pp. 271. Illustrated. New York: The Macmillan Company, 1939.

This book is intended for use by student nurses. It is an interestingly written, intensely practical handbook on bacteriology with a section on pathology which did not appear in the first edition.

The drawings of the bacteria have been made by the author himself. Material which is highly theoretical or of no particular use to the nurse has been scrupulously eliminated. The sections on immunization and treatment should be of particular interest to the public health nurse, who finds herself constantly confronted with questions in this field incidental to her important functions of health education.

W. W. Bauer, M.D.

NEW WEAPONS AGAINST PNEUMONIA

A quick method for determining by nasal smear the type of pneumonia in children from whom sputum cannot be obtained, thus making possible the immediate institution of specific treatment and improving the chances of recovery, is described by Franklin D. Poole, and Mildred D. Fousek, New Haven, Conn., in *The Journal* of the American Medical Association.

Heretofore, in cases in which sputum could not be obtained, physicians were unable to determine the type of pneumonia with which they were confronted. The importance of quickly determining the types of causative organisms, of which there are thirty-two, has been increased recently by the advent of type specific serum and of sulfapyridine, as these advances make it possible to begin specific treatment at once. The authors suggest that the method may be of value not only in children but also in adults, from whom it is impossible to obtain sputum.

Three other papers in *The Journal* deal with various phases of the progress being made in effectively treating pneumonia. One contains a description of a skin test for determining during treatment the amount of serum required, thus eliminating the necessity for overtreatment with its attendant unnecessary costs. It has been customary in the past to overtreat as the lesser of two evils, and also as a measure of safety, but overdosage offers no advantage and subjects the patient to needless expense. The new test for controlling dosage, according to other physicians, is as effective in determining whether the patient's body contains sufficient resistance (antibodies) for overcoming pneumonia as is the widely used Schick test for diphtheria.

Small doses of sulfapyridine, administered for only two or three days, for the treatment of acute uncomplicated lobar pneumonia in children are advocated by Charles Hendee Smith and Rosa Lee Nemir, New York. They report excellent results from such treatment in seventy-four out of seventy-nine cases.

Norman Plummer and Herbert K. Ensworth, New York, point out in their paper that before the advent of sulfapyridine the only effective agent for the treatment of pneumonia was antipneumococcic serum, which although invaluable was expensive, sometimes unavailable and sometimes impossible to administer. These drawbacks of serum treatment are not encountered with sulfapyridine, as the drug is comparatively inexpensive, generally procurable and more easily administered.

Broken Ankles

Fractures of the ankle region involve the function of a main weight-bearing joint and therefore constitute a serious problem, Wellington D. Griesemer, Reading, Pa., points out in the *Pennsylvania Medical Journal*. They require early diagnosis, early reposition and painstaking after-treatment. Follow-up supervision for a year is important to evaluate the results of treatment properly.

THE SCHOOL HEALTH PROGRAM

An Abstract by
PAUL A. TESCHNER

THE PUBLIC SCHOOL PROGRAM IN HEALTH, PHYSICAL EDUCATION, AND RECREATION, A Brief Statement of Policy for School Board Members and School Administrators, prepared by Bernice Moss, Utah State Department of Education and W. H. Orion, California State Department of Education.

MANY difficult problems arise in school health services. The fundamental needs of children, whether in the small rural school or in the highly organized city school system, are largely the same, and these needs should constitute the basis of the school program in health, physical education and recreation. The Society of State Directors of Physical and Health Education presents a statement of policy.

The effectiveness of the school health program depends on the quality of the administrative and teaching personnel. All pupils should be examined periodically, the results recorded, and the parent should always accompany the child. Examinations of all pupils participating in the more vigorous physical education activities should be given at the beginning of each sports season and following return to school after absence on account of illness or accident. A follow-up program to secure the correction of remediable defects should be conducted, and the school program should be adjusted to the child.

The school authorities should sponsor immunization programs for the control of preventable diseases and provide additional measures aimed at control of communicable disease. This may be by daily inspection of children and the readmittance of pupils following illness only on recommendation of the school physician or local health officer. Special diagnostic tests, supervision of lunchroom service, provision of sanitary water supply, hand washing facilities and sanitation of swimming pools, as well as education concerning control of disease are other functions the school can perform. Planned routine and regular inspections insure the maintenance of a healthful environment. The health service personnel should be certified for school service, and school building construction and equipment should meet recognized standards.

The health instruction in the primary grades should be informal, while that in the intermediate grades should present more of the background of knowledge for healthful behavior. It should be conducted by the classroom teacher and be an integral part of the entire school program.

In the junior high and senior high divisions of the secondary school, an integrated health program should operate throughout the entire period of secondary education. The content of health courses should meet the needs of pupils and should not be an incidental school activity, in which classes are held only when bad weather interferes with the regular physical education program. In every school and school system there should be a trained and experienced person in general charge of the entire health program.

The objectives of physical education are many, and of equal importance is the acquisition of skills which will contribute toward making leisure wholesome and enjoyable. All children in the elementary school, as well as the junior and senior high school, should participate daily in a program of directed physical education activities. Activities should be varied in nature, suitable to the needs and physical condition of the pupils. Those unable to participate in the more vigorous forms of activity should be assigned to classes in modified activity, or to rest.

Intramural athletics and recreational clubs conducted outside of the regular physical education class have as their main purpose the development of pupil leadership.

The interschool athletic program should be considered an integral part of the educational program. The health and welfare of pupils should be the first consideration in planning the program. All girls' athletic activities should be entirely separate from contests for boys.

The school is interested in the training and guidance of young people in desirable and wholesome leisure pursuits. It does not assume complete responsibility but makes its contribution teaching the recreational aspects of art, nature study, science, handicraft and other things during the regular school program. The school plant should be made available for recreational use for adults as well as children in the community.

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Soibelman Syndicate

A lower East side New York tenement district illustrates all the features which make for problem children. A happy child is never a problem child—nor a victim of his problems.

By IRA S. WILE

So-Called "Problem Children"

ACCORDING to a survey made by the Big Brother and Big Sister Federation, 2.3 per cent of all school children were rated as "problem children." General disobedience and disrespect for authority were considered their most characteristic traits. As usual, inadequate home conditions were held responsible for the major difficulties of the children.

According to the number of problem adults, there really should be higher percentages. But disobedience to law and disregard of authority is evidenced in no more than 2.3 per cent of the adult population.

These children should not be called "problems" but rather, victims of their own problems. Their actions are challenges to the community. Resentment of the unpleasant things in life promotes action. If the action is successful, the individual is given credit for courage and possibly even vision and power; if he fails, he is disobedient, disrespectful, without good judgment.

A world of "yes men" presents few problems. Just a few "no men" constitute a challenge to society. These, then, are "problems." Old laws are changed because of disrespect for them or because the need no longer exists. Respect for authority is not always to be found. If the righteous disapprove of prohibition laws, they maintain that it is the duty of every man to show a spirited contempt for them. However, if the law that protects property is not observed, they shout for their constitutional rights.

If every one agreed with the so-called "problem" children's desires, the youngsters would have no problem. The children thus rated say "So what!" and "Oh, yeah?" to civilization. Their defects, physical, intellectual or moral, are not of their own making. The main difficulty lies in the fact that problem communities and problem parents cry "problem" children and do not tackle the conditions underlying the problems which the children are trying to solve in their own direct way.

HEALTHGRAMS

FROM ARTICLES IN THIS ISSUE

¶There is scarcely a disease that doctors know they know less about, or laymen think they know more about, than the common cold. *See page 8*

¶Walking is still man's best standby in keeping a good circulation, firm muscles and a dependable breathing apparatus. *See page 14*

¶The results of care are infinitely more pleasing than of carelessness. *See page 38*

¶Wounds may be classified into six types, as follows: incised, contused, lacerated, punctured, gunshot and poisoned. *See page 40*

¶Today, pneumonia is less fatal, more easily diagnosed and of shorter duration than it has ever been before. *See page 50*

¶Bright children, especially those who are light sleepers, dream oftener than dull children or than adults, due partly to the vivid imagination for which childhood is known and partly to their occasional inability to differentiate the real from the imaginary, even in their waking state. *See page 53*

¶All human food is originally vegetable in form. *See page 62*

¶All children in the elementary school, as well as the junior and senior high school, should participate daily in a program of directed physical education activities. *See page 79*

¶Parents should choose the clothing for the child on the basis of keeping him warm, comfortable and not conspicuous rather than what they think will make the child look attractive. *See page 83*

¶Rapid change of altitude puts considerable strain on the ear drums due to the rapid change in barometric pressure. *ee page 34*

¶Childhood tuberculosis is invariably contracted from infected adults in the home and in the school. *See page 96*

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OUR FOOD AND OUR TEETH, by Percy R. Howe.
4 pages. 5 cents.

TAKING THE CHILD TO THE DENTIST, by William M. Gardner.
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DENTAL NOSTRUMS AND THE PUBLIC HEALTH, by Samuel M. Gordon and Eleanore B. Dufour.
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Swallowed Foreign Bodies

Many foreign bodies which enter the alimentary canal pass through the intestinal canal in from one to four days and are expelled without causing any disturbance, Wayne Bronaugh, Parkersburg, W. Va., asserts in the *West Virginia Medical Journal*.

Tacks, screws, coins, buttons, closed safety pins, straight pins and marbles, if they are small and have no sharp points, should be allowed to pass through the intestinal canal. However, pins over 2 inches long, open safety pins and nails that have sharp points are more likely to cause intestinal injury and should be removed while still in the stomach.

Chicken or fish bones are among the most common foreign bodies to reach the stomach. In carnivorous animals these form a part of the normal diet. In man they practically never give any disturbance, because as in the lower animals they are decalcified, or softened, by the gastric juice and digested. Many such bones are swallowed unconsciously and go through normal digestion.

Possible Source of a Skin Ailment

That tobacco may be the source of arsenic and lead poisoning in some individuals is suggested by E. E. Barksdale, Danville, Va., in the *Virginia Medical Monthly*.

He cites six cases of lead poisoning causing exfoliative dermatitis, in which the skin becomes reddened and covered with scales which shed. All six patients used tobacco in some form; in five the symptoms were alleviated or disappeared entirely when its use was lessened or discontinued. The sixth case had not been under treatment long enough to warrant conclusions.

The author points out that arsenate of lead spray is frequently used on tobacco to kill insects.

He admits that "in a patient with a severe dermatitis the excretory organs are markedly impaired, and it may be impossible for him to excrete a small daily dose of arsenic. If that is true, the arsenic found in the blood of these patients with exfoliative dermatitis is secondary to the disease and not the cause of it. It is my belief that these patients happen to be hypersensitive to arsenic, and this allergic phenomenon prevents normal excretion, which of course results in retention in the body. That would explain why the majority of individuals can ingest arsenic into the body without any harmful results."

Two Famed Physicians to Be Honored on Postage Stamps

The benevolent character of the service which physicians give to suffering humanity is typified by the general practitioner of medicine and the Army medical officer thus memorialized, *The Journal* of the American Medical Association says in commenting on an announcement by the Postoffice Department that the late Major Walter Reed, M.D., of the Army Medical Corps, and Crawford W. Long, M.D., of Georgia, will be among those honored in a famous American series of postage stamps to be issued soon.

Last year *The Journal* called attention to the disparity between the number of physicians in other countries who had been honored by special issues of postage stamps and the number so honored in the United States.

Cracking Joints

Cracking or snapping of joints, when unaccompanied with pain, swelling or other evidence of arthritis, is of no clinical significance. Its development, according to *The Journal* of the American Medical Association, "is similar to that of the cracking that is made by children and occasionally by adults when the end of a finger is suddenly pulled outward. The surfaces of finger or toe joints which are suddenly pulled apart will cause a popping sound similar to, and perhaps produced in the same way as, the noise made by abruptly pulling the tongue away from the roof of the mouth. Just why this should occur more at certain times than at others in the same person is not definitely known.

"An x-ray picture, of course, should be taken and a careful examination made to exclude disease conditions. In the absence of these, however, a patient should simply be reassured that he has nothing to fear from this harmless symptom."

CLOTHING the BABY

By WILLIAM I. FISHBEIN

NO two similar lists of suggested baby clothes seem to be available. There is, however, general agreement regarding certain characteristics which are required of infant's clothing. The garments should be simple, washable and adapted to the climate and season, as well as to the temperature of the house and the baby's age.

Simplicity, especially, is stressed. While adornment of the clothing may gratify the mother, it has little useful purpose. Long clothes, underskirts and tight bands are things of the past. The band that is pinned around the newborn baby to hold the navel dressing in place is discarded as soon as the navel heals and the dressing is no longer needed.

A shirt, diaper and gown or dress with stockings, if desired, comprise the infant's clothes. Garments made of cotton become softer as they are laundered. More expensive silk and woolen garments may become harsh and rough with washing, even though skilfully laundered.

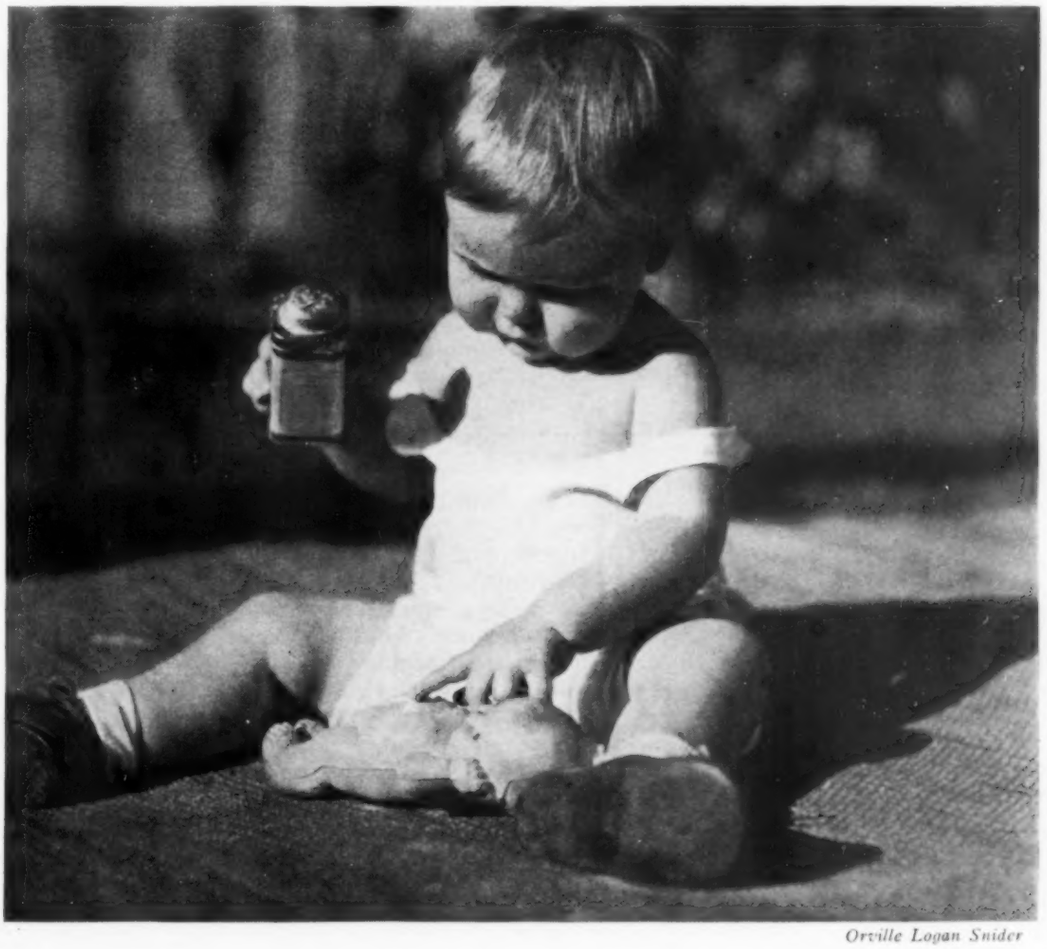
On cooler days, a sweater or jacket may be put on to keep the baby warm; a sweater may be preferable to a jacket. Warmer clothing, when necessary, is put on outside that usually worn and may be donned or discarded at will from day to day as the weather changes.

As the baby gets older and does not sleep as much as he did at first, rompers which open at the bottom, making change of diapers easier, are used instead of dresses. These rompers may be changed easily and quickly, and they are comfortable and loose.

Many physicians do not suggest that the baby have stockings until shoes become necessary. When the baby begins to crawl or stand, shoes and stockings may be put on: little socks, if the house is warm during the winter, or long stockings, if the rooms are drafty or cold.

Shoes should have a firm sole, broad toe and an instep which fits the natural arch of the foot. The shoe should be a half-inch longer and a fourth-inch wider all around than is the baby's foot when he is standing up.

As the child grows older, clothing must be altered to meet activities. Too warm clothing, it has been



A shirt and diaper are the foundation garments for the baby. If made of cotton, they will become softer after every laundering.

Orville Logan Snider

said, may increase the child's susceptibility to colds. But the child too thinly clad may become infected.

There is no evidence that allowing the child to go about with bare legs exposed to the biting winds of cold weather will harden him against colds or any other infections. Such attempts at "hardening" may result disastrously in an infection which may undermine the youngster's health.

The decision in regard to the amount of clothing to be worn must not be made on the basis of how the adult feels about it but rather on the child's reaction. If the child feels warm and comfortable, he evidently has on enough clothing. If, on the other hand, he feels cold and chilly, he requires more clothing, an additional sweater or coat.

The clothing should be of proper size. It should be large enough so that it can be put on easily and should not bind in any way. Sizes too large are cumbersome and may hamper activity. Shoes, stockings, bedroom slippers, rubbers and overshoes should all be long enough. If they are too short, they may damage the feet, interfere with the way the child walks and contribute to flat feet.

Drawers and trousers should be long enough in the seat so they will not bind. The garters, if round, which are the type most often used at present, must be loose enough not to make a mark on the leg but tight enough, of course, to hold the stockings up. If long garters are used, they should be sufficiently elastic to flex easily. The garters should be fastened to a waist, made in such a way that the pull of the garters is brought well up on the neck, not on the tips of the shoulders, as this may pull the shoulders forward or downward and have a bad effect on the posture.

Elaborate clothing, which the child has to be cautioned to keep clean, may interfere with his play and keep him from being active. Unattractive clothing, or any garments that make the child conspicuous, has an undesirable effect.

Clothing of the 1 year old averages about 1¾ pounds in weight; the child from 1 to 4 years of age carries about 2 pounds, and from 4 to 6 years, about 2½ pounds. In children 5 or 6 years of age, the ratio of the weight of the clothing is about 6 per cent. In children from 3 to 6 years, other studies indicate that the ratio may be 7 per cent of the total weight for boys, and 6 per cent for girls. A study of the clothing of fifty nursery school children has shown that the ratio of the weight of the clothing to boys' body weight, indoor clothing, 4.47 per cent, and outdoor clothing, 8.7 per cent. For girls, the indoor clothing weighed 3.91 per cent of the body weight, and the outdoor clothing, 9.75 per cent.

The number of pieces worn indoors by both boys and girls was six, and outdoors, by both boys and girls was ten. It was found that the majority of girls wore all cotton garments indoors, while boys wore a greater variety of fabrics.

The adaptation of clothing to the child seems to be more or less a matter of trial. Parents should choose the clothing for the child on the basis of keeping the child warm, comfortable and not conspicuous rather than what they think will make the child look attractive.

The child's clothing should be made so that at as early an age as possible he can learn to dress himself. Large buttons and buttonholes, which are few in number and easy to reach, aid him in learning to dress himself. Small buttons, blind buttons and buttonholes hinder the development of this ability. The garments should button in front, if possible. The present use of slide fasteners have greatly simplified the problems of dressing infants and small children.

The cuffs on the sleeves should be large enough so that the sleeves may be easily rolled up when the hand are washed. Choose your child's clothing with care and with comfort uppermost in mind.

QUESTIONS from MOTHERS

Vaccination in the Summer

To the Editor:—Is there any reason why children should not be vaccinated for smallpox during the summer months?

R. L. B., Illinois.

Answer.—During their vacation, school children who for one reason or another were not immunized against diphtheria, smallpox, whooping cough or scarlet fever can be vaccinated. But some physicians prefer to vaccinate against smallpox in the spring and autumn. If immunized in the summer, the child may be deprived of camp activity, swimming or playing in the sand box for at least several weeks in order to avoid infection. Excessive perspiration from active play might also cause secondary infections of the wound. Furthermore, smallpox vaccine virus dies readily in hot weather, and if the stock is not kept refrigerated, the vaccination will not "take."

The 2 a. m. Feeding

To the Editor:—When may the nursing mother omit the 2 a. m. feeding?

C. M. S., Nebraska.

Answer.—Unless otherwise ordered by the doctor, she may omit the feeding at 2 a. m. when the baby weighs 9 pounds or more. Give him 3 or 4 ounces of boiled water at night if he wakes. Most babies will omit this feeding of their own free will.

IS YOUR CHILD HARD OF HEARING? (Continued from page 33)

thing to be avoided. Today this is possible in a degree to which it has never been before. There are reliable aptitude tests which can be given when a child is young, and the findings of these tests will be invaluable to the parents of the hard of hearing child. When they know his native abilities, they can guide his training away from lines in which hearing is a factor. It is difficult to be specific in regard to work suitable to the hard of hearing. Available literature on the subject tends to deal with what hard of hearing adults have done when they were forced out of their original work. There seems to be little or no practical advice to the young person choosing a profession. Perhaps this is a result of the old attitude which encouraged waiting until something had to be done. Moreover, the unstable economic situation of today makes it difficult to be definite. However, there are two points which can be stated. One is the early definition of aptitudes and the employment of these as guides. The other is that manual labor must not be scorned. *All* the skills the child has should be developed so that he will be capable of doing more than one kind of work.

Sooner or later the hard of hearing person must consider the question of marriage. Generally speaking, his handicap need not keep him from marriage. The problem is highly individualistic. The person he marries must be capable of living happily with a hard of hearing person. Probably this factor more than any other determines the success of the marriage. Defects in hearing are often hereditary, and unless there is absolute proof to the contrary, this couple should seek advice from their physician before having children of their own. Whether or not they will adopt children will depend on the health of both persons and on their finances. Sometimes two hard of hearing persons fall in love. Marriage for them could be a success, but it is even more important that they consult a physician before they undertake the role of parents, whether their children may be their own or adopted.

Each child presents problems peculiar to his case. But in general, the education of the hard of hearing child should prepare him to adjust to life as he will find it and to grasp the happiness that lies within his reach in spite of his handicap.

For further information on care of the hard of hearing child, the following sources should be consulted:

American Society for the Hard of Hearing, 1537 35th St., N. W., Washington, D. C.

The Children's Bureau, U. S. Department of Labor, Washington, D. C.

The Reader's Guide to Periodical Literature for other articles in magazines.

Frail Bodies

Much disease and disability is due to a constitutional frailness or biologic inferiority of the patient's body, and no matter how much time and money are employed it cannot be traced to any single definite cause, Walter C. Alvarez, Rochester, Minn., contends in the *Journal* of the Medical Society of New Jersey.

In most of such cases the patient seems to have inherited an unstable nervous system. Such a patient may consult one specialist after another without benefit. He rarely accepts the diagnosis of constitutional inadequacy, the author points out, for "most persons would rather keep on looking for some short cut to perfect health than to face the unpleasant fact that they cannot expect to be perfectly comfortable but that they must learn self control.

"Often there is poor resistance to infection and great difficulty in getting over colds or accidents or operations. Usually there is much fear of disease or much hypersensitiveness which causes little discomforts to feel like unbearable pains. Almost always there is bitter complaint of sensations of exhaustion, and not infrequently the patient is so psychopathic that all the problems of living and adjusting are made difficult; the brain is in such constant turmoil that rest and relaxation and proper sleep cannot be attained, and little energy is left for happy and productive work."

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Many listeners to the program "Medicine in the News" are writing us for copies of the program. We are unable to supply copies of the program as broadcast. Since these programs are in dramatized form they are broadcast from a radio script which is of little use outside of the radio studio, besides being bulky and expensive. While we cannot send copies of the script, we are always glad to send material which conveys the same information or to answer questions about the program.

● ● ●

Following is the reaction of one listener to Medicine in the News after a visit to the studio during the broadcast:

"It was my privilege to visit the NBC studios in Chicago last week to get a close-up view of both the rehearsal and the broadcast of 'Medicine in the News.' As a weekly sustaining program designed to bring new facts and valuable information about health and scientific medicine to the American people, it accomplishes its purpose in a highly entertaining manner through the medium of radio.

"Foremost among my impressions of Medicine in the News is the fact that it is produced entirely by professional radio artists. There is nothing amateurish about it. The continuity is written by an experienced script writer in collaboration with officers of the American Medical Association, background music is furnished by the NBC staff orchestra, and the voices are those of talented, well trained radio actors, some of whom I learned in Chicago are familiar characters in other popular programs.

"I was impressed, too, by the fact that Medicine in the News, unlike so many other health programs, is snappy, sparkling and highly entertaining. It has variety and rhythm from start to finish. It includes lively drama, good music, some humorous relief and spot scientific news taken from current medical journals and 'broken' for the first time to the general public via this program."

● ● ●

We cannot always be certain which local radio stations are broadcasting this program. It is a "sustaining program; that is, it brings no revenue to the broadcasting station or the network and therefore local stations are under no obligation to broadcast the program. Radio station management, however, is keenly sensitive to the interests of its audience. If there is local evidence of a desire on the part of listeners to hear Medicine in the News and if this interest is brought to the attention of the local radio station management, the probabilities are that the program will soon be on the air if the program is available to the station.

According to information received from the National Broadcasting Company late in 1939, the sixty-eight American and one Canadian station listed herewith had indicated their intention of broadcasting Medicine in the News. It may be heard at 4:30 Eastern standard time every Thursday afternoon.

New England States

WNBC	New Britain, Conn.
WLBZ	Bangor, Me.
WEAN	Providence, R. I.

Middle Atlantic States

WABY	Albany, N. Y.
WBEN	Buffalo
WJTN	Jamestown, N. Y.
WJZ	New York
WMFF	Plattsburg, N. Y.
WSAN	Allentown, Pa.
WLEU	Erie, Pa.
WKBO	Harrisburg, Pa.
WGAL	Lancaster, Pa.
WFIL	Philadelphia
KDKA	Pittsburgh
WORK	York, Pa.

East North Central States

WENR	Chicago
WGL	Fort Wayne, Ind.
WBOW	Terre Haute, Ind.
WBCM	Bay City, Mich.
WXYZ	Detroit
WFDF	Flint, Mich.
WIBM	Jackson, Mich.
WJIM	Lansing, Mich.
WSAI	Cincinnati
WING	Dayton, Ohio
WIBA	Madison, Wis.

West North Central States

KSO	Des Moines, Iowa
KMA	Shenandoah, Iowa
KSCJ	Sioux City, Iowa
WREN	Lawrence, Kan.
KANS	Wichita, Kan.
KYSM	Mankato, Minn.
WTCN	Minneapolis
KROC	Rochester, Minn.
KFAM	St. Cloud, Minn.
KWK	St. Louis
KSOO	Sioux Falls, S. D.

South Atlantic States

WCOA	Pensacola, Fla.
WAGA	Atlanta, Ga.
WSOC	Charlotte, N. C.
WTAR	Norfolk, Va.
WRTD	Richmond, Va.
WCKV	Charleston, W. Va.
WBLK	Clarksburg, W. Va.

East South Central States

WAVE	Louisville, Ky.
WAPO	Chattanooga, Tenn.
WROL	Knoxville, Tenn.

West South Central States

WJBO	Baton Rouge, La.
KTOK	Oklahoma City
KFDM	Beaumont, Texas
KTSM	El Paso, Texas
KGKO	Fort Worth, Texas
KXYZ	Houston, Texas
KRGV	Weslaco, Texas

Mountain States

KTAR	Phoenix, Ariz.
KVOA	Tucson, Ariz.
KVOD	Denver
KGHF	Pueblo, Colo.
KOB	Albuquerque, N. M.
KLO	Ogden, Utah
KUTA	Salt Lake City

Pacific States

KECA	Los Angeles
KFSD	San Diego, Calif.
KGO	San Francisco
KTMS	Santa Barbara, Calif.
KEX	Portland, Ore.
KJR	Seattle
KGA	Spokane

Canada

CFCF	Montreal

WONDER STORIES of the HUMAN MACHINE

(Continued from page 49)

ing the ends together and giving an opportunity for normal repair. We may even introduce a new piece of wire, or nerve, from some other source to repair the line. But if the central battery is badly damaged, the machine is likely to be permanently out of commission. There are some cases, however, in which relatively large portions of the brain in certain areas have been removed through accident, disease or operation, and recovery has taken place with no serious loss of function.

The electric system of the human machine is indeed a wonderful part of this wonder machine. We have only outlined a few of its marvels, for a whole book might be written about it, and then not much more than the surface would have been touched. The electric system needs attention, perhaps more than any other part of the machine, and it responds to rest and change often more quickly than any other part of the body. We can be and often are tired nervously, when we do not realize what the matter is. We are "out of sorts," have no pep, our enthusiasm for our usual duties has vanished, or we are "cranky." A day or two of change away from routine, or simply doing nothing, may completely relieve us of such disagreeable symptoms and restore the battery to its vigor and power.

Sometimes the drains on the battery from numerous human gadgets that use electricity, or nerve power, are too much for the generator to keep up with, and the battery really runs down. It is true that good food and a regular routine do much to keep the battery charged fully, but when it is low, and this is oftener than most of us think, switching off some of the circuits and allowing time for recharging through rest and relaxation is one of the most valuable methods of keeping up this marvelous electric system.

There is nothing equal to this human machine. Attend to its upkeep.

NOTE.—This series of articles is being reprinted. The articles will be available separately about three weeks after their appearance in HYGEIA for 15 cents each, postpaid. The entire series will be available in June 1940 in an attractive box file for 81 a set, postpaid.

Next month, Dr. Skinner will consider the engine of the human machine.

Mice and Men against Pneumonia

FOR MEDICAL RESEARCH PURPOSES, the white mice you see above are almost miniature human beings.

Their reactions to the pneumonia germ and to certain methods of diagnosing and treating pneumonia have been of invaluable help in the dramatic struggle waged by men and their little laboratory-helpers, mice, against death from this disease.

▶ Perhaps you do not realize how much progress has recently been made in this struggle—that the death rate from pneumonia has dropped nearly *one half* in the past ten years.

Diagnosis of pneumonia is now more certain, determination of the type more accurate. Serums have been developed which are highly effective in combating the disease—provided they are given in time. New chemical compounds also are playing an important role in the control of pneumonia.

That this progress *has* been made, that it offers so much hope of relief and cure, gives you more reason than ever for being on the alert to detect pneumonia's danger signals. More reason, too, for letting your doctor know about them promptly, and thus give him the opportunity of determining as soon as possible which treatment is most appropriate for your particular case.

▶ Though pneumonia, of course, *may* strike without warning, the most common symptoms usually appear after a cold or grippy infection or some extreme exposure or exhaustion. These symptoms consist of:

Sudden chill. Fever. Pain in side.
Cough. Thick, rust-colored sputum.
Hurried, somewhat labored breathing.

Any one or any combination of these symptoms indicates illness which may be pneumonia. So, a doctor should be called at once. Tragic situations have resulted from delay in seeking medical treatment. Pneumonia works fast, and the physician must work faster to check the disease.

▶ Winter and early spring are the months when colds and pneumonia are most frequent. During those coming danger months, there is much that can be done to keep your resistance high to these infections. Write for Metropolitan's free booklet, "Colds, Influenza, Pneumonia," which contains many practical suggestions to help you ward off trouble.

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Relaxation
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Be certain to ask for a sufficient number of booklets so that each girl in your class may have her own copy.

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The SLEEP of the INNOCENT

(Continued from page 56)

the hour of bedtime goes without saying. Elmer, as stated, was no ordinary youngster. In fact both parents reluctantly admitted that he had an exaggerated opinion of himself. It was suspected that he rather resented being made so important; yet he felt that since the responsibility was placed on him, even if against his wish, he might as well make the best of a disagreeable situation.

The boy's bedtime had been a sort of a ritual, followed out systematically and precisely. Immediately after dinner his father reviewed the news of the day in the office. Then came a chapter or two in a detective story, because Mr. Brown has been a devotee of this type of literature ever since his boyhood. "Detective stories are good for kids. It exercises their brains," he felt. Following this, Elmer had to call both sets of grandparents to say good night. When he finally retired, there was the immediate family. From what I gathered, it was a sort of Shakespearean drama in action.

"Good night, good night, parting is such sweet sorrow
That I shall say good night till it be morrow."

Under such emotional conditions it was logical to attribute the boy's difficulty in falling asleep to an unwillingness rather than to actual inability.

Elmer is 17 years old now. He enjoys the sleep of the innocent. He is a happy youth, and much of his tranquillity I am sure emanates from the fact that he is no longer the only male descendant of an overemotional family. It is his 6 year old brother who is now beginning to suffer from insomnia.

Mastoid Inflammation in Babies Is Often Disguised

Inflammation of the mastoid, which constitutes a grave menace to life in infants, is often disguised by other diseases which it complicates and thus remains undiagnosed, P. W. Leathart declares in the *British Medical Journal*. He studied 146 consecutive autopsies of infants and found that in twenty-nine cases mastoiditis undiagnosed in life had been present on one or both sides.

Parents are able to train children in what they like and dislike in the way of food.

RATS, CATS and MEN

By J. MACE ANDRESS

DISCUSSIONS about the influence of heredity versus environment continue. The question is not merely academic. It deals with practical psychology and education. If children are born with fear of a certain thing, the problem for parents and teachers will be quite different from what it would be if we knew that these fears had been acquired or learned. It would be foolish to teach something which we know is inherited; it would be almost criminal to neglect trying to teach something which is important and can be taught.

One of the most suggestive investigations in animal psychology was conducted by Z. Y. Kuo on rats, mice and kittens. Most persons consider rat killing an instinct of cats, because all the cats they know of do kill rats. It is also true that cats have a remarkably efficient physical equipment for catching and killing rodents. So this theory of the cats' so-called instinct to kill rats was put to a severe test.

The subjects of the experiments performed by Kuo were fifty-nine kittens, which were divided into three nearly equal groups. The plan was to rear each of these three groups under different living conditions, and at prescribed times each kitten's reaction to rodents was tested. Obviously, if all responded in the same way toward rats and mice, regardless of their past experience, it might be assumed that their responses were inherited; but if they responded differently, the inference would be that learning was responsible.

By varying the life histories of the kittens, which during the experiment grew into cats, Kuo found that he could cause some of them to kill rats and others to play with them and "love" them. The story of individual cats brought up as cagemates with individual rats was especially interesting. Some of these cats were playful with the rats and even showed some attachment for them. Three of the kittens even showed protective responses similar to a mother cat toward its young. It was thus proved that a kitten's own experience determined whether it would or would not kill rats and mice. Kuo decided that "it was just as 'natural' for a cat to play with a rat as to attack it, to 'love' it as to kill it, for either type of response can be developed without difficulty by the proper training." Most cats form the *habit* of rat killing, because most environments provide the proper and favorable conditions for such development.

Then through another experiment, Kuo attempted to find out whether cats could be trained to "fear" rats. The experiment indicated that habitual rat catchers may be easily trained to be afraid of rats and run away from them.

The attitude of cats toward rats can thus be modified fundamentally by training. Experimental evidence is accumulating to show that human beings, like cats and rats, may be trained to fear or like particular things, whether it be milk, spinach, bugs, snakes, darkness, cod liver oil, classical music or Shakespeare. This means that great power, either for better or worse, is put into the hands of parents and teachers, for what children love and hate is most significant.

Johnny Brown—the culprit who had the sniffles and just wouldn't mind his teacher.

A YARDSTICK for the TEACHER

By RUTH I. ELLIS

Rural school teachers and school nurses who lack some of the advantages of city school teachers in promoting good health will appreciate this article by Ruth I. Ellis, school nurse at Fairfield, Calif. It illustrates concretely how nurse and teacher may cooperate, and the suggestions for morning inspection and general observation of pupils should be helpful to every teacher.

"DIDN'T Johnny Brown have the 'sniffles' yesterday in school?" asked one teacher of another as they strolled through the corridors at noon.

"He certainly did and was just as 'ornery' as he could possibly be. First, he wouldn't play with the other children at morning recess, just sat on the front steps; then he slapped Jane for no good reason at all. Finally, I had to stand him in the corner for kicking Benny. I was a wreck before the day was over! He is out today. I wonder if he's sick."

This conversation is not unusual. In its many variations it is repeated thousands of times daily throughout our country. Perhaps during his luckless day at school, Johnny has given measles to four or five of his schoolmates; all because Johnny's teacher was so engrossed in the business of teaching and in the regimentation of her little charges that she did not face squarely the child's unusual behavior and appearance.

Until recently, teacher-training institutions have for the most part skipped over the more practical aspects of health education and health supervision. Therefore, many classrooms are presided over by women who have had little or no instruction concerning these common problems confronting them. Many teachers for this reason feel that *Health* as such is the responsibility of the nurse and can wait until the day of her visit.

All school nurses, I feel sure, will agree with me that the teacher holds the key position in school health and health education. Particularly is this true in a rural community such as the one I serve. A nurse with twelve schools to visit in a radius of 5 to 10 miles or even more perhaps cannot possibly visit each of those schools every day; nor can she average more than a few minutes in observation of each pupil when she does visit the school. It naturally follows, therefore, that she must figure out some way whereby she can see the pupils, in part at least, through the eyes of the teacher. She must give the teacher a set of values, a yardstick similar to the one she herself would use.

Both the teacher and the nurse in a large city school have an advantage in many ways over those working in rural communities. In the city system the health coordinator wrestles with the "problems" and makes the plans. The teacher has the advantage of guiding conferences, lectures and up-to-date manuals compiled with her own local situation in mind. The nurse in a city system finds herself, more or less, a cog in a piece of well integrated machinery.

On the other hand, the nurse in a rural system usually finds that she must be her own health coordinator. She must furnish stimulation that will encourage her teachers to seek broader understanding of health matters. She must realize, as she makes her plans, that the rural teacher is teaching more than one grade—in some instances eight grades! If the school nurse in a rural district is going to help the teacher to see her pupils as individuals from the angle of their present health and future physical and mental development she must give that teacher a yardstick which is simple, comprehensive and concise.

After studying the situation and needs in our community for something over a year, I evolved the following list of suggestions to teachers. The page on which the suggestions are duplicated is of size and shape to fit into the class register, thereby making it available as a reminder and guide each morning when the teacher takes roll. It follows:

SUGGESTIONS to TEACHERS

For Morning Inspection and General Observation of Students in the Classroom

Morning classroom inspection by the teacher is of value as a check on whether or not certain health habits are being practiced. Inspection is valuable also as an aid in preventing the spread of communicable disease. It is important that no pupil stays in the classroom if his condition might endanger the health of others.

Evidences of Deviation from the Normal Which May Be Noted by Teachers

1. Eyes
   - *a.* Are eyes watery or red; lids crusty or swollen?
   - *b.* Does child bend head low over book when reading?
   - *c.* Are eyes crossed?
   - *d.* Does child tip head to one side or make faces when looking at book or blackboard?
   - *e.* Does child complain of burning sensation in eyes or of headache?
2. Ear, Nose and Throat
   - *a.* Does child have pain on swallowing?
   - *d.* Is his throat red and swollen?
   - *c.* Is there discharge coming from either ear?
   - *d.* Is child's hearing impaired? (This may be evidenced by lack of attention when class is reciting, etc.)
   - *e.* Does he have a copious watery discharge from his nose?
   - *f.* Is child's breath offensive?
   - *g.* Has he a cough?
3. Skin.
   - *a.* Is there rash or swelling or any lesion on any part of body? (Children should be encouraged to notice and report rashes.)
   - *b.* Is skin pale or flushed?
   - *c.* Does child continually scratch body or head?
   - *d.* Can you see lice or nits in hair?
   - *e.* Is the odor of perspiration present?
   - *f.* Are skin, hair and nails clean?
4. Weight and Nutrition.
   - *a.* Has the child lost weight or failed to gain for two or more consecutive months?
   - *b.* If he eats at school does he bring an adequate and well balanced lunch, including a hot drink during the winter months?
   - *c.* Does he show symptoms of chronic fatigue?
5. Posture.
   - *a.* Does child conform to recognized posture standards?
   - *b.* Is his gait normal?
6. Physical Abnormalities.
   - *a.* Has the child any noticeable physical defects or abnormalities such as a stiff joint, severe scars, etc.?
   - *b.* Is his speech normal? (It is very important to discover and treat speech defects when child is young.)
7. Symptoms of Nervous Instability.
   - *a.* Does child bite his nails? Chew his pencil?
   - *b.* Is he irritable? Unresponsive? Restless?
   - *c.* Does he cry easily?

The teachers and I have found this "yardstick" mutually helpful and I pass it on with the hope that it may be useful to others in similar situations.

A HEALTH CARNIVAL

By FLORENCE BENELL

The victim has red ink spattered all about him to look like blood, and the "nurse" who is so correctly garbed is applying proper first aid treatments.

Health teaching is becoming conspicuous for its originality. This is the story of a teacher in the Central Junior High School, Muskegon, Mich., who organized a health carnival. It proved to be a good way to advertise good health to the school and the community. Perhaps you would like to plan a similar project in your own school.

THE almost magnetic power that the word carnival has over junior high students is uncanny. Therefore, why not have something done with the word and at the same stroke contribute some useful information? We did.

Last May first, on Child Health Day, my five physiology classes presented in grand style a health carnival with all the ballyhoo ordinarily attached to such. Weeks were spent in research, letter writing, magazine and newspaper scanning to obtain sufficient material to do justice to the purpose of this enterprise. The library was transformed into a place of educational entertainment.

Now as we enter, our attention is called over to a table of pamphlets, from which we take samples. On the walls above the table are large posters of health principles done in fairyland style; they depict nutrition, dental health and similar subjects.

The aroma of peanuts and candy draws our attention, and the swing music in the air causes our feet to tap rhythm. We follow the crowd to the next booth where we are shown the principles of dental health. Here, too, are large dental health posters. Leaving this booth, we continue on and encounter more free pamphlets. The next stop is at the visual health booth, which is fascinating indeed. The barker informs us that the model schoolroom with the light walls and desks diagonally arranged illustrates proper lighting and that those ten small candles on each desk signify the requirement of each desk for an equivalent of ten footcandles of light. All the principles of correct lighting are demonstrated, and we were greatly interested in the models of normal, nearsighted and farsighted eyes.

A candy saleslady lures us on, and we indulge. Then we come to a side show, where we observe the

methods of first aid treatments. The victim has red ink spattered about him to look like blood, and the "nurse" is correctly garbed from head to toe.

Next comes a booth with a model of a water filtration plant, with real sand and water. We are given a demonstration of how water is purified and almost ask for a drink.

There is a long line in front of one of the side shows; we must find out what goes on. We are informed that we may have our fortunes told. So we wait our turn and finally enter the place of mystery, each of us to one of the two charming tellers of fortune. Our palms are read, and our fortunes are told in terms of health and physiology. What ingenuity those students did show!

The next booth is filled with models depicting all the principles of health that are essential to healthy living. Models for these are made from clay or cardboard or are rag dolls. Adjoining this is a table on which are a farm made of a blue-green paste, a farmhouse of brown paste, a privy, a well and underground water leading to a spring nearby, where a tent is pitched. This model purports to explain how typhoid fever may be transmitted.

A barker entices us on to another side show—the "patent medicine" show. This enlightening information on fads and fallacies is most welcome and educational, and we learn much. In the next booth are posted many charts on communicable diseases and tuberculosis.

Once again the music draws our attention, and we notice that a dance exhibition is in progress. As time flies on, we venture on our way, thinking we shall never forget the enthusiasm displayed by our students who ran this carnival.

"GUARD YOUR HEALTH"

By HELEN M. SMITH
and EFFIE G. BATHURST

Helen M. Smith, instructor in junior high school social studies, Santa Barbara, Calif., and Effie G. Bathurst, research associate, Teachers College, Columbia University, continue their discussion on the creative aspects of health teaching by presenting selected parts from the health play, "Guard Your Health."

HEREWITH is presented the fifth and last episode of a play written by the junior high school pupils of Santa Barbara, Calif. The major portion of the play consisted of the visit of a high school girl, Ann Sherwood, and her mother to the health clinic. They talked for a few moments with the family physician, Dr. O'Brien, and when he learned about Ann's difficulties, he sent her for examination first to a heart and lung specialist, then to a dentist and lastly to a physician specializing in eye, ear, nose and throat treatment.

In last month's HYGEIA, Scenes I and II were presented. Scenes III and IV, consisting of the visits to the dentist and the doctor specializing in eye, ear, nose and throat disorders are omitted. The following episode consists of conversation among Ann, Mrs. Sherwood, two nurses and a physical therapist in Dr. O'Brien's office after Ann's examination.

It is interesting that, in the part omitted, as well as in the following episode, the children seriously considered those significant factors in everyday living which persons who have health difficulties are too likely to disregard. Among them are food and nutrition, cleanliness, posture, care of the teeth, protection of the eyes, proper exercise, play, rest and sleep.

"This is Ann, Miss Taylor. What do you think of this young lady's posture, Miss Taylor?"

SCENE V.—Dr. O'Brien's Office

DR. O'BRIEN *(as Mrs. Sherwood and Ann enter):* Come right in. We're ready to talk with you. This is Mrs. Sherwood, Miss Taylor, and this is Ann. Miss Taylor is an expert on posture and corrective exercises. She helps people to build stronger bodies and muscles. What do you think of this young lady's posture, Miss Taylor?

MISS TAYLOR: Come sit in this chair, Ann. *(Ann sits but slumps*

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HEALTH PLAYS

Reprinted from HYGEIA

The School Lunch Room.—11 to 20 characters; time, 15 minutes. Set of 10 copies, 45 cents. Single copy, 10 cents.

The Medicine Men.—A puppet play. 7 characters; time, 10 minutes. Set of 7 copies, 30 cents. Single copy, 5 cents.

Sissy.—4 characters; time, 15 minutes. Set of 4 copies, 25 cents. Single copy, 10 cents.

The Gift a King Accepts.—15 characters. Set of 15 copies, $1.10. Single copies, 10 cents each.

The Magic Fluid (Diphtheria Antitoxin).—8 characters, with chorus, "king's subjects," etc. Set of 8 copies, 35 cents. Single copies, 10 cents each.

Send for free catalog describing other health material

HYGEIA

535 North Dearborn Street CHICAGO

down in the chair.) Just what I thought. You are not careful about your sitting position. The correct way is to sit back in the chair so that your hips touch it, while your feet remain flat on the floor. *(Demonstrates.)* Also, keep your shoulders against the chair, if this is possible. Relax naturally now, and you should be very comfortable.

MRS. SHERWOOD: When Ann walks, she stoops forward. Her head is always ahead of her body.

ANN: Maybe I do that because I can't see very far ahead of me. When I get the glasses I need, they may help my posture.

MISS TAYLOR: Right you are. Poor eyesight often causes poor posture. Stand up for a moment, and I'll show you how to stand correctly. Keep your feet a little way apart with your toes straight ahead. Place your weight on the balls of your feet. Hold your chest up, your abdomen flat, your head high and your chin in. Don't exaggerate this position so that you are stiff and awkward. Remember these points when you walk, and you will overcome the habit of going along "head first." Also practice this exercise. Stand as flat as you can against a smooth wall. Pull your chin in, and try to flatten the back of your neck against the wall. Do this several times a day, and practice good posture throughout each day, sitting, standing and walking straight and tall, and you'll soon have a fine posture.

Miss Wilson, another nurse, enters and is introduced. She joins the group and becomes interested in studying Ann. For a few moments Ann and Mrs. Sherwood chat with Miss Taylor and Miss Leroy, the dietitian, regarding Ann's harmful habit of carrying books always on her right arm; they also talk of her sleeplessness and of her failure to get enough exercise and play and the right kind of food. Ann is glad to learn more healthful ways of living and promises to follow them. Then she thinks of another problem, and the conversation continues as follows:

ANN: My skin has not been so good lately. I have had pimples on my face and back. What causes these?

MISS WILSON: I'm glad you asked, Ann. I've been noticing your skin. The most important thing you can do in caring for it is to keep it clean. If we don't keep our skins clean, the dirt interferes with the work of the oil glands, or the pores may become clogged, and pimples and then blackheads result.

ANN: How should I clean my skin?

MISS WILSON: Soap and warm water are the best skin cleansers. However, some skin troubles are caused from within and not from without. Unless they are extremely serious ones caused by infection or disorders in our bodies, they can be cured by proper diet and keeping clean. Drink plenty of water, about six glasses a day. Eat fruits and fresh vegetables. These help to regulate our bodies.

ANN: I've been using a thick cream on my face at night. Should I continue this?

MISS WILSON: You are too young to use a face cream every night. Occasionally you may use a cleansing cream, but remove it before you go to bed, and wash your face with warm water and soap. Follow with dashes of cold water. The skin is really a body organ and plays some part in helping to throw off waste matter.

DR. O'BRIEN: Mrs. Sherwood and Ann, you have listened to us all very patiently.

MRS. SHERWOOD: I've been most interested in what you have said. I realize now that I must help Ann to build up her health.

DR. O'BRIEN: That's right, Mrs. Sherwood. Build it up and protect it. A good strong body housing a healthy mind produces healthy, happy human beings. Our advice always is: *"Guard your health."* You yourself are responsible for what you are or what you aren't. We can advise, but you must act to preserve your own health.

To Contributors:—*The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length and must be typewritten double spaced. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address J. Mace Andress, editor of School and Health Department of* HYGEIA, *67 Clyde St., Newtonville, Mass.*

FIRST AID IS TOO LATE! (Continued from page 39)

to the left and right before stepping off the curbstone. "And a little child shall lead them" in precept and example.

In the home, where it would seem that one should be safest, is where the larger proportion of accidents occurs, and most of them are the direct result of lack of care. At home many persons appear to have attacks of the disease which a Negro woman said she had. On her return from a visit to her doctor, a friend asked her what he had said. "Honey," she replied, "he done say ah is suffrin' fum acute indiscretion."

A recent case of poisoning which came to my attention shows a lamentable lack of that most desirable quality, care. The unfortunate victim of the accident went to the medicine chest in his bathroom and took a dose of a supposedly harmless mixture. Unfortunately, he took the medicine in the dark, and what he took was far from harmless. It was well for him that there was some one in the household who knew what to do in the emergency, and the prompt administration of the proper remedies got the patient off with less serious results than his carelessness gave him a right to expect. Exercise a little pre-accident care yourself: Go to your medicine chest now, and see that all the bottles containing poison have bright poison labels on them; also, stick pins in the corks. If the "cork" is a glass stopper, wrap a rubber band around it. Then in the dark, the sense of touch will tell you at once which bottles have harmless contents and which have not. But even so, don't take any medicine in the dark.

Another frequent cause of accidents in the home is the use of a substitute for a step ladder. Perhaps you are upstairs and the ladder is down, you make a quick step up on the back of a chair, or sofa, lose your uncertain footing and fall. It has been estimated that the average cost of falls is over $300, and a good step ladder can be bought for less than $1. Keep a step ladder on the ground floor and another on the second floor; it's cheaper than to run the risk of accident.

A recent worldwide study of the statistics of accidents showed that 90 per cent of all accidents can be avoided by the exercise of proper care. We are stupid if we do not strive to cut down the present appalling totals. Bear this in mind, and realize how much pain and suffering and waste can be saved by taking care. Determine to make first aid really too late, as far as you are concerned.

NOCTURNE

Now I lay me down. To sleep?
Oh, no! To count a lot of sheep.
I know I'll never get a wink,
I have so many thoughts to think.
Last night I tried composing verse
But my insomnia got worse;
I tried hot milk and tea and gin,
A shot or two of aspirin.
I took a walk around the yard,
I tried that trick of breathing hard;
As noises of the night grew louder
I even thought about a powder;
And . . . . . .
. . . . . .
My gosh, is that the breakfast call?
And I have hardly slept at all!

By Sprague O. Smith.

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AMERICAN MEDICAL ASSOCIATION
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Medical News OF THE MONTH

Childhood Tuberculosis

Childhood tuberculosis is invariably contracted from infected adults in the home and in the school. The sources of the infection are contacts with tuberculous nurses, governesses, maids and other domestic help, teachers and parents and other adult members of the family.

Fairfax Hall, New Rochelle, N. Y., in making these declarations in *The Journal* of the American Medical Association, stresses the fact that "there is a definite hazard to the health of children from intimate association with persons about whom little or nothing is known with regard to freedom from communicable diseases. Since parents are much more apt to have had adequate medical supervision than the servants in a home, the risk to the children from them is greater. Occasionally an older member of a family, mistakenly thought to have chronic bronchitis or asthma, is a factor to be considered in safeguarding a child from tuberculosis. School teachers with active tuberculosis are a menace to their pupils.

"Contact between children and tuberculous nursemaids or other domestic helpers will be less frequent when parents are so convinced of the necessity of employing only healthy servants that they will demand proof of their servants' health."

Tickling

There are two kinds of tickling, deep and surface, *The Journal* of the American Medical Association explains in answer to an inquiry about the different effects of tickling when done to oneself and when done by other persons. Deep pressure over the ribs, in the arm pit and elsewhere causes the muscles underneath to contract, the person to draw away, laugh, cry or exclaim. The reason this does not happen when the tickling is done by a person to himself is that he consciously resists, and the muscles are kept relatively stiff. Actually, deep tickling can usually be resisted by keeping the muscles rigid and contracted. The response to tickling is a true reflex and is carried by the nerves up the spine to a portion of the brain (the thalamus) which translates the sensation into the response of laughter, crying and so forth. The surface sensation of tickling may be caused by light touch, such as a feather, and lasts often after the stimulus which caused it has been stopped.

Peptic Ulcers

The death rate in cases of acute perforation of peptic ulcer is lowest when operation is performed within six hours of the perforation, Harold Lincoln Thompson, Los Angeles, states in *The Journal* of the American Medical Association.

The mortality rate was 21.5 per cent in 130 cases operated on within six hours of the perforation and 22 per cent in 168 cases, 46.2 per cent in 54 cases and 34.2 per cent in 73 cases operated on within twelve, twenty-four and more than twenty-four hours, respectively. Spinal anesthesia also played a part in lowering the mortality rate.

Eight Years Depending on a Respirator

A report of the case of a youth, now 21 years old and a victim of the 1931 poliomyelitis [infantile paralysis] epidemic, who has for eight years been dependent on a respirator, at least during sleep, is made by Scott Lord Smith, Poughkeepsie, N. Y., in *The Journal* of the American Medical Association.

In addition to the paralysis, the youth has been through the vicissitudes of colds, hay fever, eczema and pneumonia, with all the problems involved in treating these ailments under such conditions.

With the exception of a small portion of the right side of the diaphragm, practically all his voluntary muscles below the clavicle and the respiratory muscles were paralyzed.

"Constant twenty-four hour nursing attention was maintained from the first," the author says, "and we were unable to find any way to dispense with it or even combine the care of this boy with that of others. All changes in position of the body from the shoulders down had to be made by the nurse, and all parts exposed to pressure were kept cushioned with rings.

"The nurse had to feed him each mouthful; she also turned each page of the books he read and made the moves he indicated in playing games. She remained constantly within earshot, because we were unable to arrange a call system, and speech for him was possible only during one phase of the respirator action. Nursing care was exceeded in importance only by mechanical respiration."

Work Capacity of Human Heart

The human heart does less work when the individual is standing for a considerable length of time than when he is at rest, *The Journal* of the American Medical Association declares. This is due to the effect of gravity in depleting the amount of blood coming back to the heart and therefore the amount of work accomplished by the heart.

In answer to an inquiry as to how much work a normal heart of an average 150 pound man will do in one hour, *The Journal* says that this may be estimated roughly at 15,000 foot pounds when the man is doing heavy labor and at 3,000 foot pounds when he is at rest.

MEDICAL NEWS DRAMATIZED!

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